APPENDIX D

Report to Chief

Potential Bighorn Sheep Interactions with Domestic Sheep on the Beaverhead-Deerlodge National Forest

February 10, 2011

United States
Department of
Agriculture

Forest Service

Beaverhead-Deerlodge
National Forest

February 10, 2011

Beaverhead-Deerlodge National Forest

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Background

On January 14, 2009, the Regional Forester signed the Record of Decision for the Beaverhead-Deerlodge National Forest (BDNF) Revised Plan (Plan), replacing the 1986 and 1987 Forest Plans for the Beaverhead and Deerlodge National Forests. The Plan provides multiple-use goals and objectives intended to achieve and maintain a suite of desired conditions across the BDNF. Standards and guidelines included in the Plan provide parameters for the development and implementation of future projects and activities on the BDNF.

The January 14, 2009, decision was subject to administrative appeals codified at 36 CFR 217. The 56 appeals submitted under the appeal procedures were consolidated into one set of issues with one decision rendered by Gloria Manning, Reviewing Officer for the Chief, on October 30, 2009. The appeal decision affirmed the Regional Forester's decision to select Alternative 6 Modified from the FEIS and approve the Plan, but included instructions as follows:

> *"I have reviewed the Revised Plan management direction (RFP, pp. 45-49) and analysis in the FEIS (pp. 485-539) for wildlife habitat, and public comments related to control of disease between bighorn sheep and domestic sheep, and the responses to those comments. I find the Revised Plan is adequate to provide for the persistence of bighorn sheep, consistent with the 1982 NFMA diversity requirements (36 CFR 219.26).*
>
> *However, given ongoing conflicts over bighorn sheep management in western states and the current high degree of public interest in the management of bighorn sheep, it appears that the Revised Plan defers the bighorn and domestic sheep interaction issue to site-specific decisions (e.g. allotment management plans) rather than taking a more comprehensive approach. Therefore, I direct the Regional Forester to review the Land and Resource Management Plan planning record and any other relevant information and determine whether an amendment is necessary to provide more comprehensive direction for the management of sheep interactions on the BDNF. I further instruct the Regional Forester to inform the appellant of the outcome of this review."*

Introduction

This Draft Report to the Chief documents the review of bighorn sheep and domestic sheep interactions requested by the Reviewing Officer for the Chief.

The report begins with disclosure of management direction in the Plan applicable to the management and potential interactions of bighorn sheep and domestic sheep on the BDNF. It then reviews information in the FEIS and the Statewide Bighorn Sheep Conservation Strategy issued by Montana Fish, Wildlife and Parks (MFWP) in January 2010. This Strategy includes detailed wild sheep population information that was not available at the time the ROD was signed. The location and management of domestic sheep allotments on the BDNF were then compared with the population and management information from the Strategy to identify potential interactions with existing populations of bighorn sheep.

BDNF Plan Direction Germane to Bighorn Sheep and Livestock

The Plan (page 11) establishes Forestwide Desired Condition as:

- Conditions for self-sustaining or viable populations of native and desired non-native plant and animal species are supported within the natural capability of the ecosystem.
- Issues involving species with needs that go beyond Forest boundaries and authority are identified and resolved in conjunction with other federal agencies, state, county, tribal, and city governments.

Bighorn sheep are native to the BDNF. The October, 2009, appeal decision found that the Plan adequately provides for the continued existence of bighorn sheep, consistent with the 1982 NFMA diversity requirements (36 CFR 219.26). While the BDNF provides habitat for bighorn sheep, existing populations use habitat located on state, federal and private lands. No populations exist solely on lands managed by the BDNF. Management of bighorn sheep are the responsibility of MFWP. As a result, issues involving bighorn sheep go beyond Forest boundaries and legislated authority. The Plan requires the Forest to resolve these issues in conjunction with other agencies and governments.

Plan goals for managing wildlife habitat (page 45) include:

> **Connectivity:** Forest management contributes to wildlife linkages between landscapes, unless landscape isolation is determined to be beneficial. Linkage areas are those areas identified for large carnivores and ungulates through multi-agency coordination. Options may include, but are not limited to:
>
> - Maintaining Forest Service ownership at highway and road crossings,
> - Consolidating ownership at approach areas to highway and road crossings substantiated by empirical data as necessary to facilitate wildlife movement, and
> - Providing secure habitat at the landscape scale to facilitate large animal movement.

Connectivity provides for areas free of vehicular disturbance for large animals to move thru/into if they so desire. Sheep are free to move wherever they wish on BDNF lands. Note there are no domestic sheep allotments anywhere outside the Gravelly and Lima-Tendoy landscapes, but there are domestic sheep on non BDNF lands in between the island mountain range landscapes. MTFWP relies on transplants to establish or re-establish bighorn sheep populations in areas where they are currently absent, or to supplement the numbers of an existing herd. Transplanting and dispersal of wild sheep are not within the authority of the BDNF.

Landscapes are already isolated from an ownership standpoint- i.e. the Gravelly and Lima-Tendoy landscapes are surrounded by a sea of mixed ownerships into which bighorns can readily disperse or expand.

Domestic sheep grazing on interspersed private lands is a long term use in Beaverhead & Madison Counties. County records (USDA National Agricultural Statistics Service available online at http://www.nass.usda.gov/QuickStats/Create_County_All.jsp) show 14,400 domestic sheep in Beaverhead County and 4,400 domestic sheep in Madison County in 2009.

Plan standards for managing wildlife habitat and domestic livestock (Revised Forest Plan pages 27 and 49) include:

> Livestock Standard 3: Allotment management plans will identify specific criteria for special areas, such as wet meadows, where limiting grazing at certain times of the year or under certain conditions is necessary to protect resources.
> Wildlife Standard 5: Sheep allotments in the Gravelly Landscape which become vacant will be closed to sheep grazing or the vacant allotment may be used by an existing Gravelly Landscape sheep permittee, with no increase in permitted use (Scale – Gravelly Landscape).

The Plan requires allotment management plans to include specific criteria, or limit grazing, if necessary to protect resources. Within the planning period, grazing by domestic sheep will not expand in the Gravelly Landscape, and may be reduced below current levels. If reductions do occur this can reduce potential adverse interactions with bighorn sheep.

Status of Current Bighorn Sheep Populations near the BDNF

In Montana, management of bighorn sheep is the legislated responsibility of MFWP. Bighorn sheep along the Continental Divide near the Indian Creek Allotment are part of a herd that typically occurs in Idaho. Occasionally, these sheep cross the Continental Divide into Montana. Since this herd primarily resides in Idaho, much of the actual herd management is the responsibility the Idaho Fish & Game (Figure 13). The herd generally returns to the Idaho side to rut and winter (Montana FWP 2010)

The FEIS catalogs 91 specific comments from MFWP. Only one comment addresses livestock grazing (Comment #3) and is not related to bighorn sheep and domestic sheep interactions. For the convenience of document reviewers, MFWP comments are attached to this report as Appendix A.

The State Bighorn Conservation Strategy (2010), "Protocols for Trapping and Transplanting Bighorn Sheep to New Areas and Augmenting Existing Populations" directs a comprehensive evaluation process to be done by MFWP for new site selections and for augmentation of existing populations. MFWP Regions are required to produce an Environmental Assessment in compliance with the Montana Environmental Policy Act (MEPA) for all new transplants. In addition, a comprehensive Habitat Evaluation Procedure and the accompanying HEP Assessment Form needs to be completed for each potential new transplant site.

Bighorn sheep are not on the Montana Species of Concern List (Appendix B) prepared by the Montana Natural Heritage Program. In the Spring of 2010, Montana Natural Heritage performed a status review of the species in light of the 2009-2010 die-offs in western Montana. The species status as S4(apparently secure) remains unchanged as a result of the review (Bryce Maxell Pers Comm E-mail 10/19/2010 – Appendix I). "In 2000, the Statewide population was estimated at 5,000 animals based on direct counts and in 2010 the population is estimated at around 6,000, again based on direct counts. So, during the past 12 years or 3 generations, the population has increased by 20%." (Appendix J)

The current NatureServe heritage ranking of G4, N4, S4 (MT) means that the species is classified as secure in Montana (Figure 1). Montana's Comprehensive Fish and Wildlife Conservation Strategy (2005) classifies bighorn sheep as a Tier 3 species: *Lower conservation need. Although important to Montana's wildlife diversity, these species, communities, and focus areas are either abundant and widespread or are believed to have adequate conservation already in place.*

The Idaho Comprehensive Wildlife Conservation Strategy does not classify bighorn sheep as a species of greatest conservation need *anywhere along its border with Montana*. (Idaho F&G 2005-Appendix E) The species is classified amongst Idaho's mammals of greatest conservation need south of the Snake River (Figure 2), approximately 165 miles southeast of the BDNF.

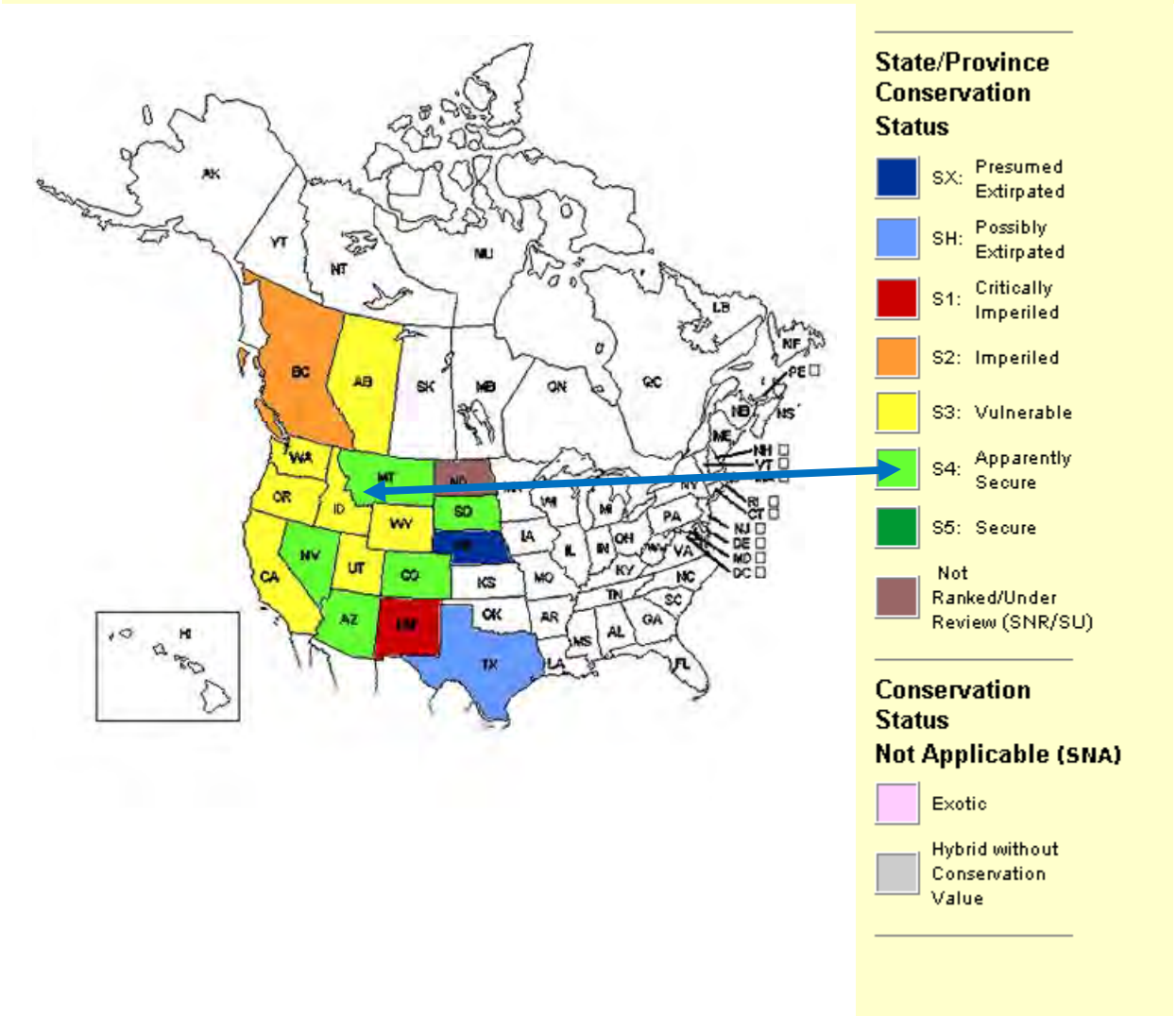


Figure 1: Bighorn sheep conservation status (Natureserve.org accessed 2/24/2010)

The Montana Bighorn Sheep Conservation Strategy (2010) page 53 - Recommendations to BLM and USFS (and other land management agencies) notes.

---:5) Where mandatory buffer zones (frequently cited as a minimum of nine airline miles [13.5 km]) between domestic sheep and goats and wild sheep are used to ensure effective separation, it should be recognized that buffer zones apply to herds or populations of wild sheep, **rather than wandering individuals (most often sub-adult bighorn rams)**. (emphasis added). In some cases, buffer zones have been a very effective strategy to reduce the opportunity for interaction between wild sheep and domestic sheep and goats.
. . .

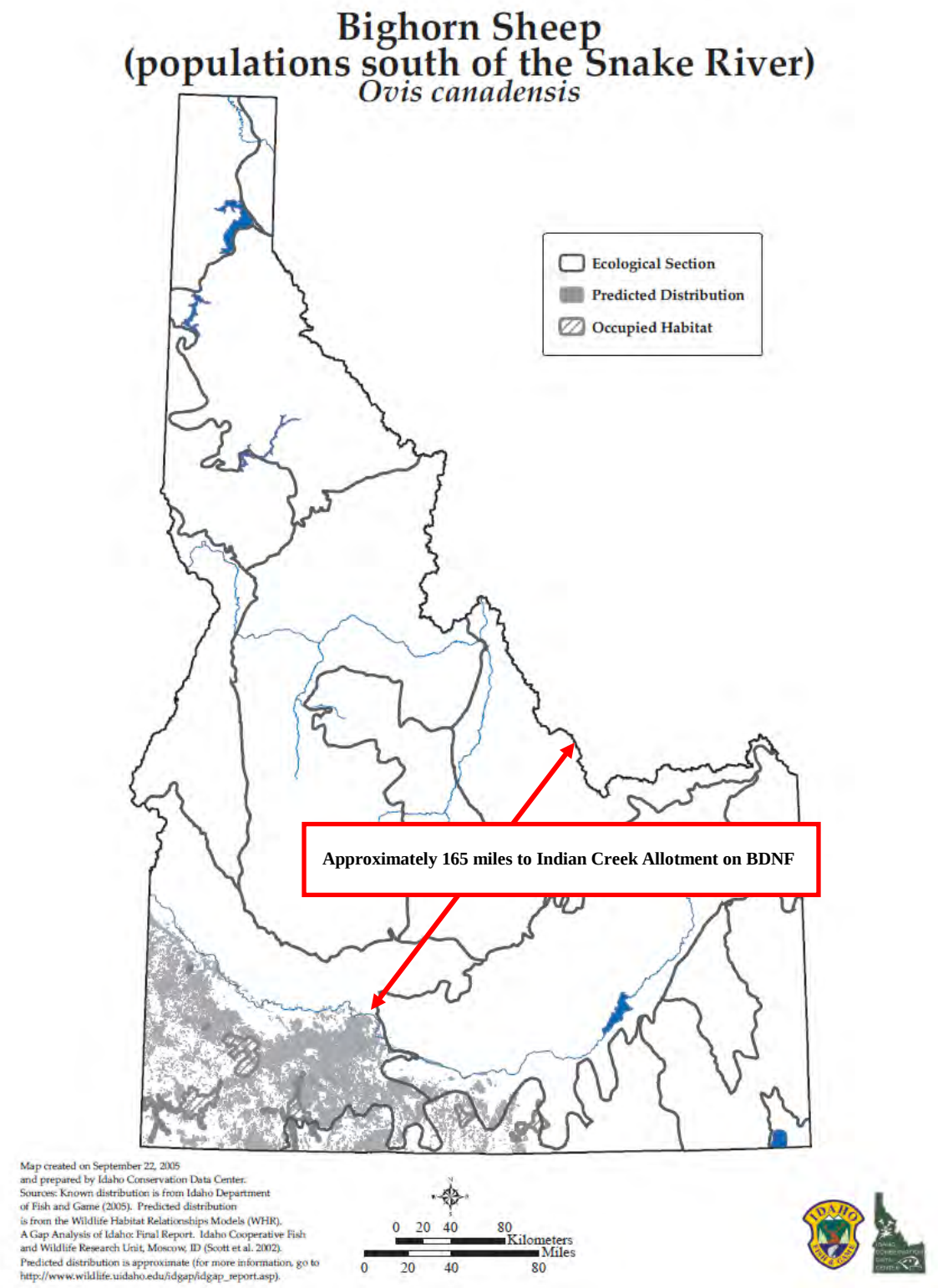


Figure 2. Idaho Bighorn Sheep Area of Greatest Conservation Need (Idaho Department of Fish and Game 2005)

While the Payette NF in Idaho issued a decision (USDA Forest Service 2010a) reducing domestic sheep grazing to reduce potential risk to bighorns, the BDNF situation is entirely different. The Payette administers 24 active sheep and goat allotments with permitted numbers of 18,300 domestic sheep as of 2009 (USDA 2010a). This is more sheep than are grazed on all National Forest allotments in Montana. (Table 1).

While the BDNF allotments are isolated by the landscape ownerships (Figure 4) , the Payette NF ownership is virtually contiguous with domestic sheep allotments overlaying bighorn sheep summer source habitat. (Figure RR-3 USDA 2010a). The distribution of allotments over such habitat appears to increase challenges to maintaining separation between the species.

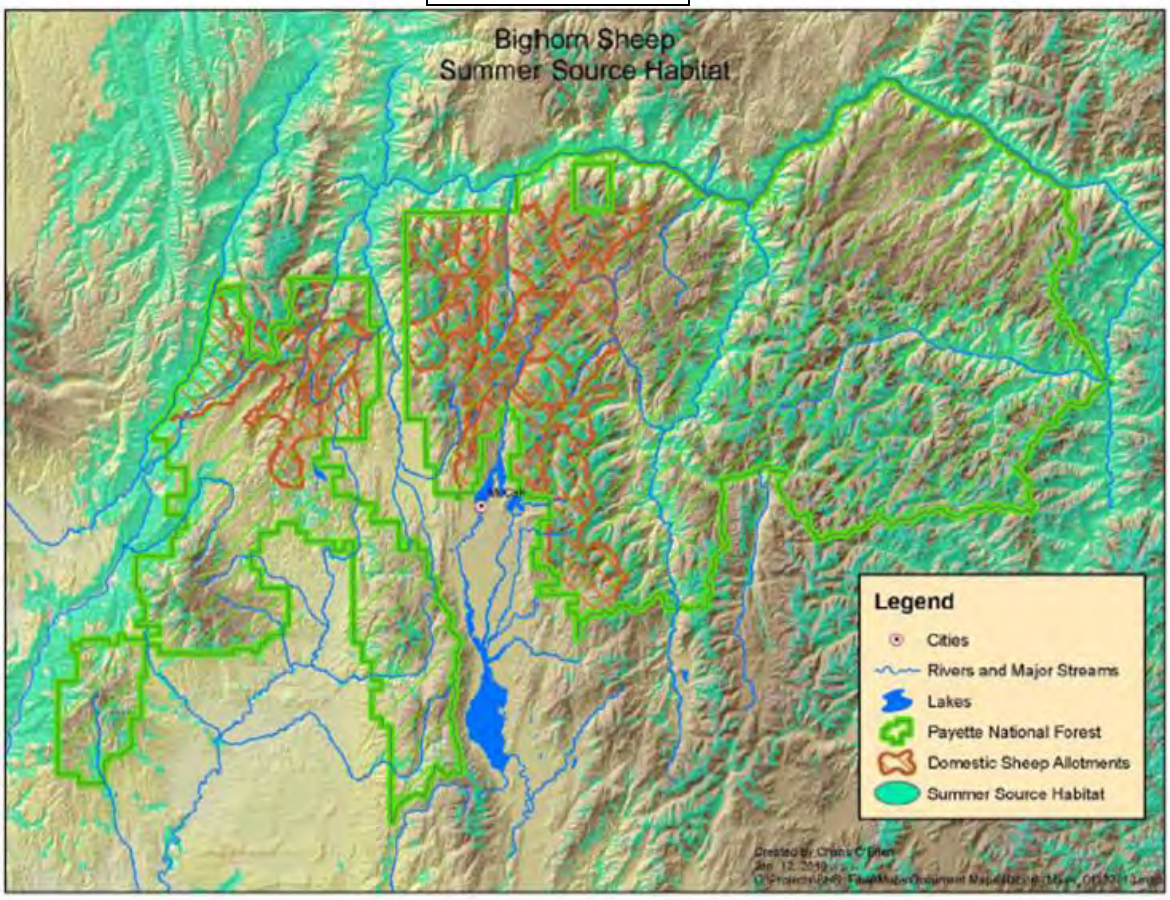
The Payette NF ROD (USDA 2010b) notes a key decision criterion is: "Eliminate overlap of domestic sheep and goat allotments with bighorn sheep core herd home ranges". The Montana Bighorn Conservation Strategy (2010) does not describe or map core habitat for the Tendoy or Greenhorn populations.

Table 1: NF Domestic Sheep Grazing Comparison

Payette NF Permitted Sheep	Idaho Permitted NF Sheep(USDA FS 2009)	Beaverhead-Deerlodge NF (allotment AOIs)	All NFS in Montana (USDA FS 2009)
18,300 ewe/lambs (USDA 2010a, Ch 3, Table SO-2a)	184,385 sheep and goats	7800 ewe/lambs on Gravelly Allotments 1200 ewe/lambs Lima-Tendoy Allotments	17,735 sheep and goats

Figure RR-3. Domestic Sheep and Goat Allotments and Current Summer Source Habitat on the Payette National Forest

Payette NF 2010a



Bighorn Sheep Populations and Domestic Sheep Grazing on the BDNF

All or portions of eight wild sheep populations are located on the BDNF (Figure 3).

The Montana 2009-2010 die offs & culling efforts: (WAFWA Wild Sheep Working Group Summary: Winter 2009-2010 Bighorn Sheep Die-offs (3/16/10) occurred as follows:

TABLE 2 Montana 2009-2010 Bighorn Sheep Die-Offs		
Population (Figure 3)	Known Deaths/Culling	Estimated Mortality
E. Fork Bitterroot	83 known	Unknown
Lower Blackfoot	93	Unknown
Rock Creek (No BDNF domestic sheep grazing)	31	306

Lost Creek (No BDNF domestic sheep grazing)	37 (WAFWA 11/09/2010))	Unknown
Skalkaho (No BDNF domestic sheep grazing)	15 (Bitterroot Star 9/15/2010)	Non-event (WAFWA 11/09/2010)
Highland (No BDNF domestic sheep grazing)	0 (2007 & 2008 transplants added 82 bighorns-FWP2010 despite documented overlap with private domestic sheep)	0
Greenhorrn (BDNF Domestic sheep grazing)	0	0
Tendoy (BDNF Domestic sheep grazing)	0	0

None of the die-offs are associated with Forest Service domestic sheep allotments in R1. (USDA Forest Service 2010). The Rock Creek and Lost Creek populations are primarily located on BDNF lands north and west of Anaconda, MT, but these populations have no contact with BDNF domestic sheep allotments. The nearest BDNF domestic sheep allotments are located more than 50 miles to the southeast in the Gravelly landscape (Figure 4).

Of the populations shown on Figure 3, the Greenhorn and Tendoy populations are exposed to potential interaction with domestic sheep on Forest Service allotments. The allotments are located in the Gravelly landscape (7 allotments- Figure 6) and Lima-Tendoy landscape (2 allotments-Figure 9) respectively. All other landscapes on the BDNF have **no** domestic sheep grazing National Forest System lands.

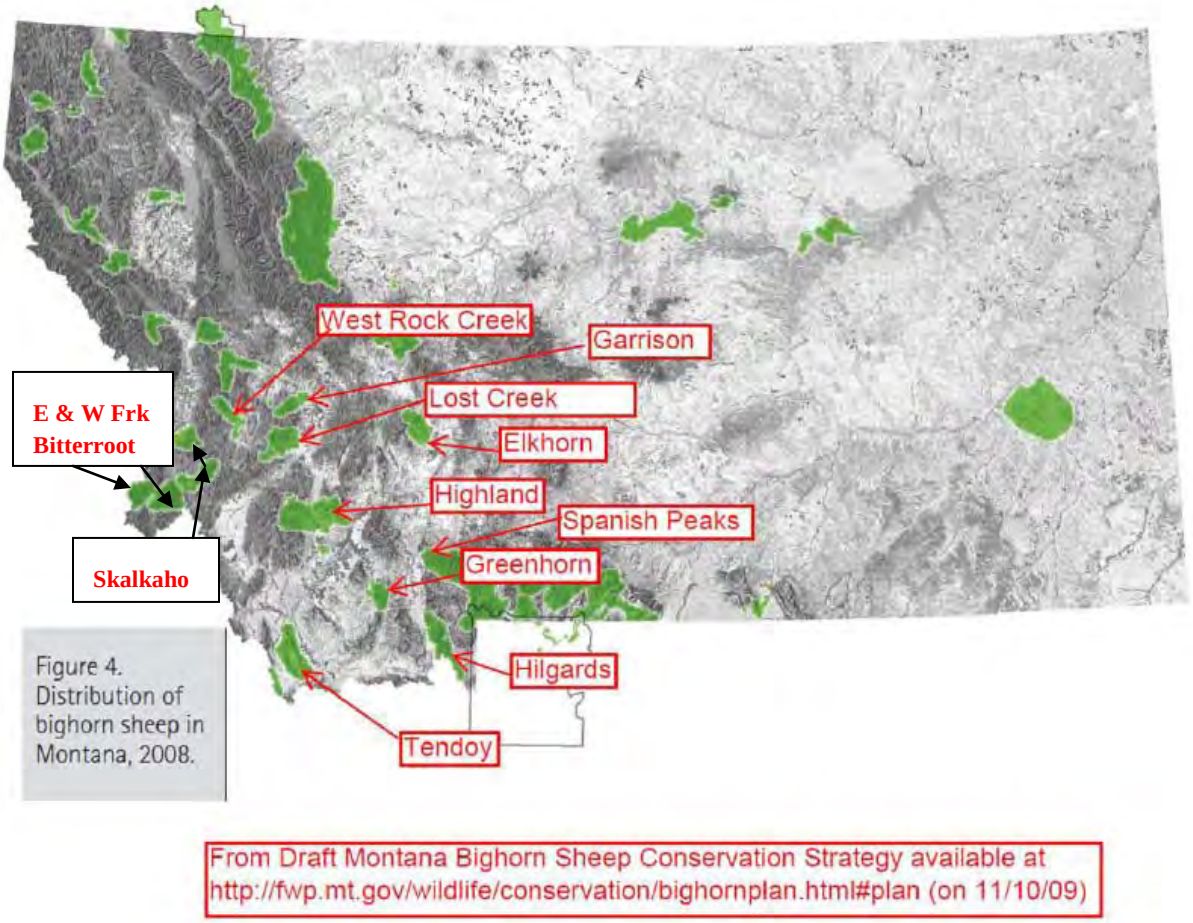


Figure 3. Bighorn Sheep Populations on or near the BDNF

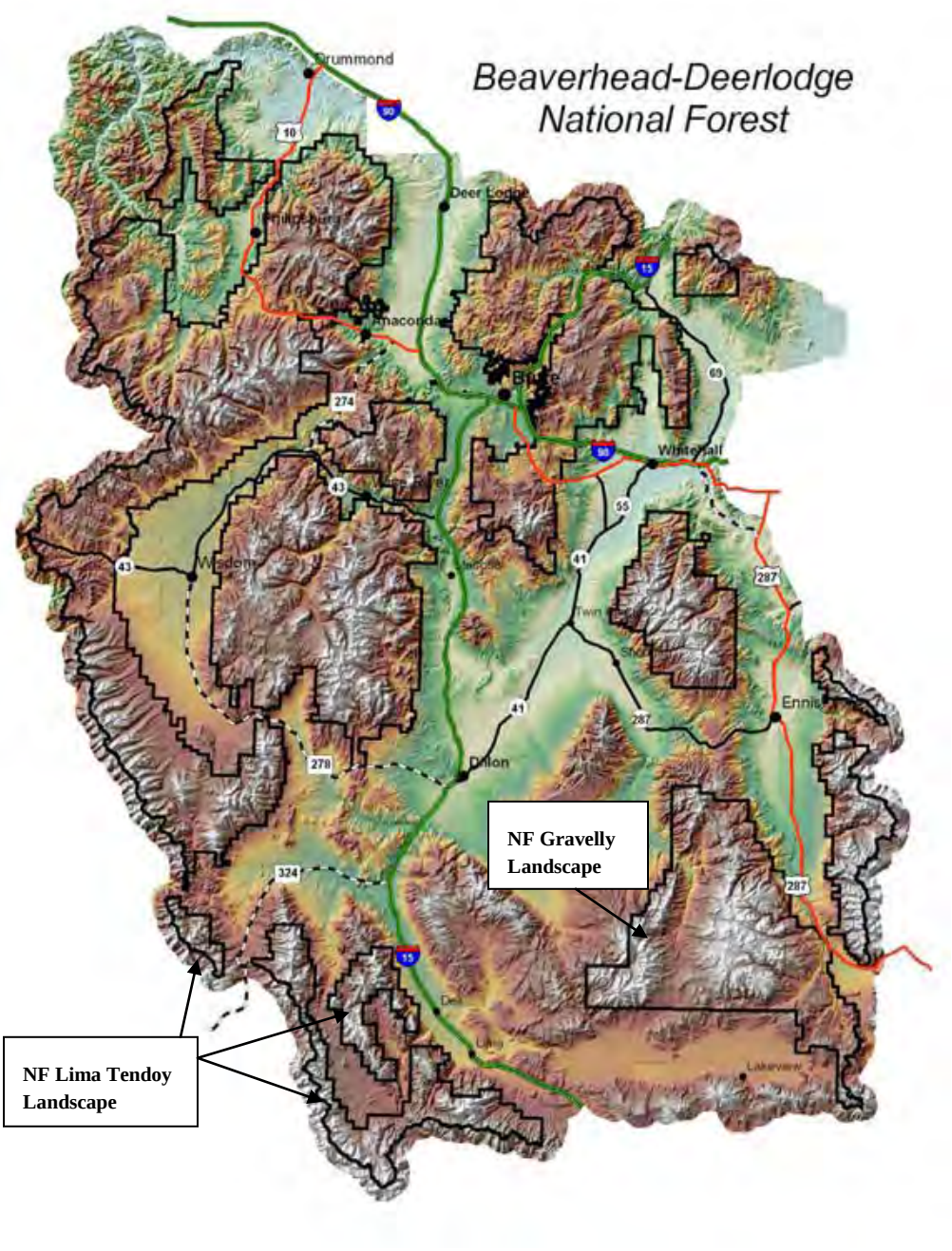


Figure 4. BDNF Landscapes (USDA 2009)

Seven Forest Service allotments in the Gravelly landscape are grazed from 7/1 to 10/6 with a total of 7,800 mature sheep. Allotment area totals 54, 892 acres within the 469, 399 acre Gravelly landscape. These allotments are located about 7-17 air miles south of the existing Greenhorn bighorn sheep population (Figure 6**).** Four historic sheep&goat allotments were closed in in 2008.(USDA Forest Service 2008)

Two Forest Service allotments (Bear Canyon & Indian Creek) in the Lima-Tendoy landscape are grazed by domestic sheep from 7/1 to 9/30. Allotment area totals 11, 698 acres within the 367, 566 acre Lima-Tendoy landscape. Both allotments are annually grazed by the same band of sheep (**1,200 ewe/lambs**) in an alternating pattern. I.E. in 2010 the Indian Creek usage was planned for 7/1 -8/17 with the sheep shifted to Bear Canyon from 9/3-9/30. The pattern is reversed in alternating years. Utilization standards take precedence over off dates. The Bear Canyon allotment is separated from the main locus of bighorn sheep detections by approximately 4 miles (Figure 10). There is little separation between the Idaho population of bighorn sheep and the Indian Creek allotment.

Since the Greenhorn and Tendoy populations are the only wild sheep potentially affected by domestic sheep grazing on the BDNF detailed discussion is limited to these two populations for the remainder of this report.

Greenhorn Bighorn Sheep Population

The Greenhorn population was established by the introduction of 69 bighorn sheep in February 2003 with 30 animals from the Missouri Breaks and 39 animals from the Rocky Mountain Front (MFWP 2009).

Bighorn sheep are occasionally sighted near the Ruby Reservoir Dam, in the Barton Gulch area, along the Ruby Road near some buffalo jumps on Jack Creek, and at the Ruby River Canyon near Powder Gulch (MFWP 2009).

The buffalo jumps and Ruby Reservoir are approximately 6 miles west of the BDNF (Figure 5). Only the upper reach of Barton Gulch is located on the BDNF. The Ruby River Canyon is located on the BDNF. According to MFWP documents, “A total count of 31 bighorn sheep in April 2007 is the latest high observed count available. Lamb production and ram counts have been difficult to determine as so many sheep have been removed from the population by dispatch or trapping and transplanting, and the few remaining have been so widely dispersed” (MFWP 2010). The Montana Bighorn Sheep Conservation Strategy does not elaborate why transplanting from such a small herd has occurred.

“A large number of sheep have been removed from this population prior to enough time passing to allow for population growth. From the original 69 sheep released, there have been known mortalities of 15 radioed sheep (13 were from unknown causes and 2 were dispatched). There have also been 14 other sheep dispatched for a total of 29 mortalities out of the original 69. In addition, 18 sheep were removed in February 2006, eight of which were from the original 69 and 10 others born since the last transplant in February 2004. **Of the 69 sheep originally released, 34 have died or been removed from the population, leaving a maximum of 35 of the original sheep to grow the population“(MFWP 2010).**

“Since the initial transplants of 2003 and 2004, removal of bighorn sheep as a result of agreements made with adjacent domestic sheep producers have precluded these bighorns from expanding numerically’ (MFWP 2010). The State’s population objective in the Greenhorn Mountains is 100-150 sheep.

Prior to introduction of the bighorns, MFWP, the Dillon Field Office of the BLM, the BDNF and two private sheep operators entered into an MOU (Appendix D) agreeing to no changes in

the permittees' operations without their consent. Both sheep operators hold term grazing permits for sheep on the BDNF and graze sheep on State, BLM and private property in the Gravelly landscape. The MOU notes that the permittees are issued bighorn kill permits valid on the federally managed Gravelly Mountain grazing allotment or on the operator's private or leased land whenever domestic sheep are present on those lands. The kill permit will be renewed annually. "**To date, the sheep producers have not used these permits"** (MFWP 2010).

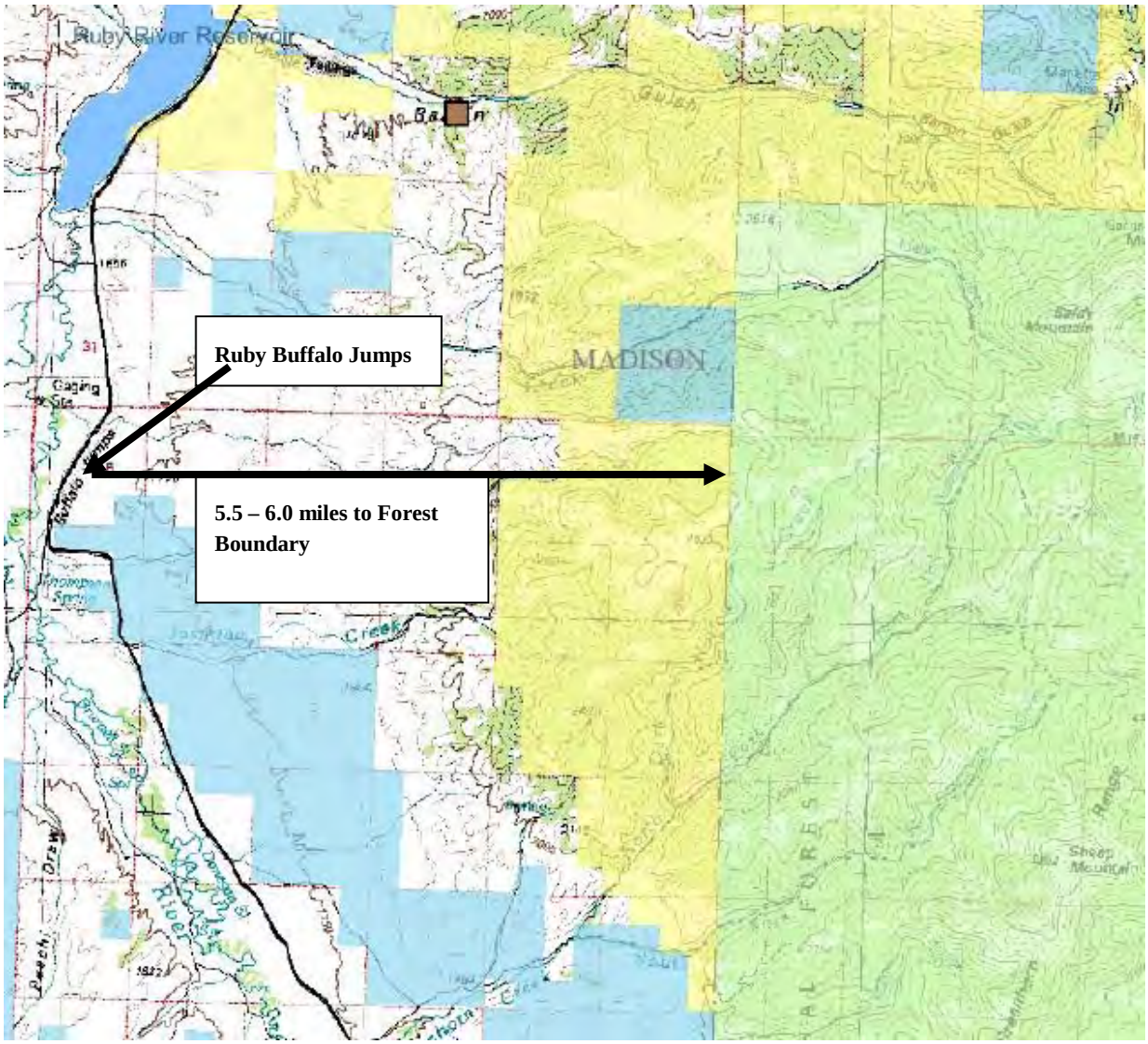


Figure 5. Spatial Relationship of the Ruby River Buffalo Jumps to BDNF boundary

Specifically, the MOU states:

> *"Reintroduction of bighorn sheep will not cause the Agencies to adjust the operation or management of the Grazing Permittees' domestic sheep grazing operations without the Grazing Permittees' consent. The Agencies agree that this includes the trailing corridor and grazing allotments."*

"Reintroduction of Bighorn Sheep will not preclude consideration of domestic sheep grazing on other allotments in the Gravelly or Snowcrest Mountain ranges.

In an attempt to prevent contact between Bighorn Sheep and domestic sheep, FWP will issue the Grazing Permittees a kill permit for Bighorn Sheep.

The nearest domestic sheep permitted to graze on the BDNF (Figure 6) are located approximately 7-17 miles southeast of the Greenhorn population. These permitted sheep trail from private property, through the State of Montana Robb-Ledford Wildlife Management Area and across a portion of the BDNF to and from the Forest allotments (Figure 7).

As directed by Wildlife Standard 5: *Sheep allotments in the Gravelly Landscape which become vacant will be closed to sheep grazing or the vacant allotment may be used by an existing Gravelly Landscape sheep permittee, with no increase in permitted use.* There will be no additional sheep grazing in the Gravelly Landscape over the life of the Plan.

"Issues in bighorn sheep management in this area all relate to wild sheep and domestic sheep conflicts. One issue is the potential for transmission of disease between the two species. Another is the potential for wild rams to breed domestic ewes. *To date, and to the best of our knowledge, neither of these potentials has come to fruition* (*emphasis added*)**. There has been sufficient spatial separation between the two species, even without the removal measures listed above, which further reduced potential conflicts**" (MFWP 2009). The "sufficient" separation refers to those domestic sheep allotments on BDNF lands.

Furthermore, Montana FWP has indicated that even if all domestic sheep were removed from public land in the Gravellys that the area might not be opened up for bighorns as domestic sheep are on private land adjacent to the area.(Eric Tomasik – Pers Comm 2-04-2011). Domestic sheep in surrounding Madison County total approximately 4400 animals (Appendix K).

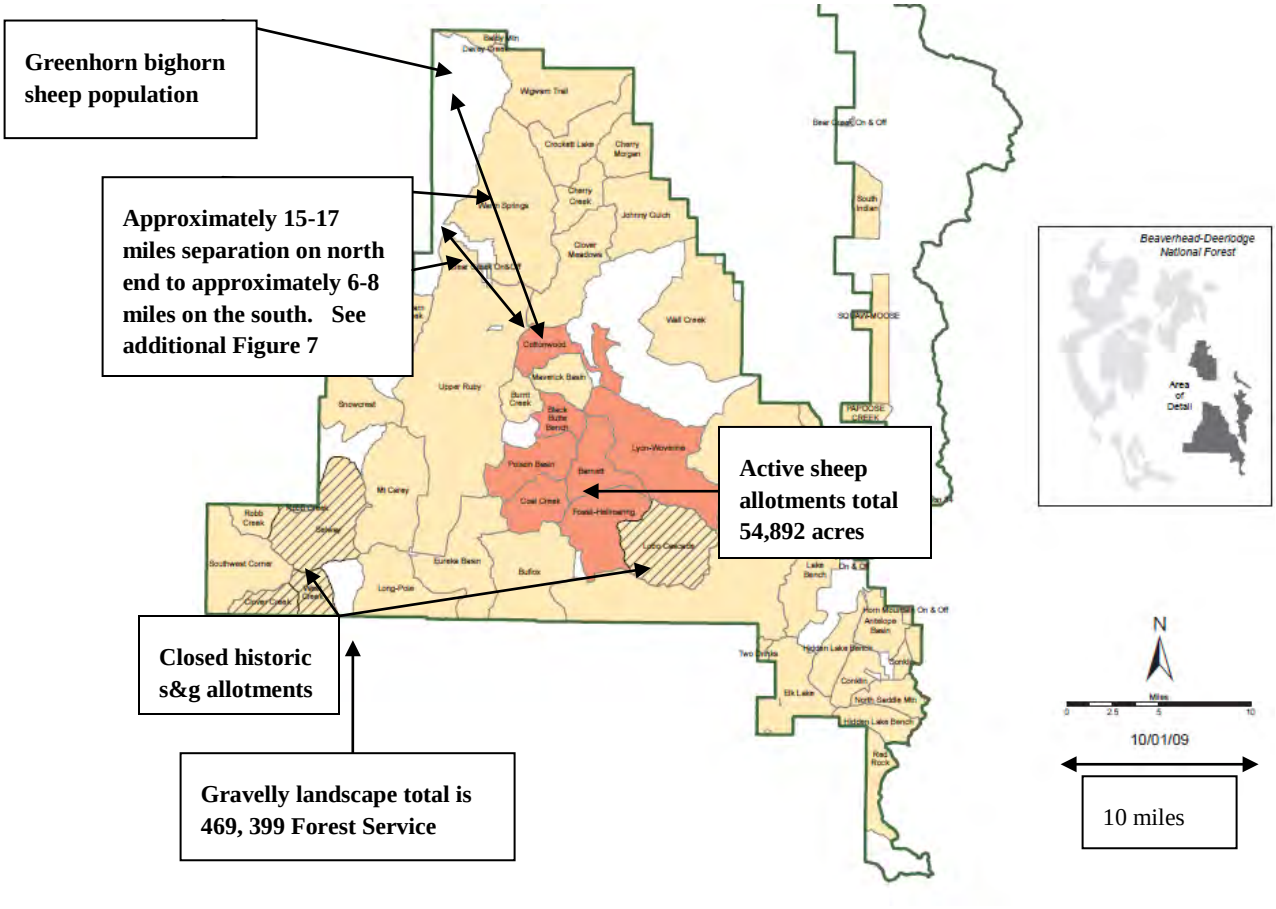


Figure 6. Gravelly landscape sheep allotments relative to existing bighorn sheep population.

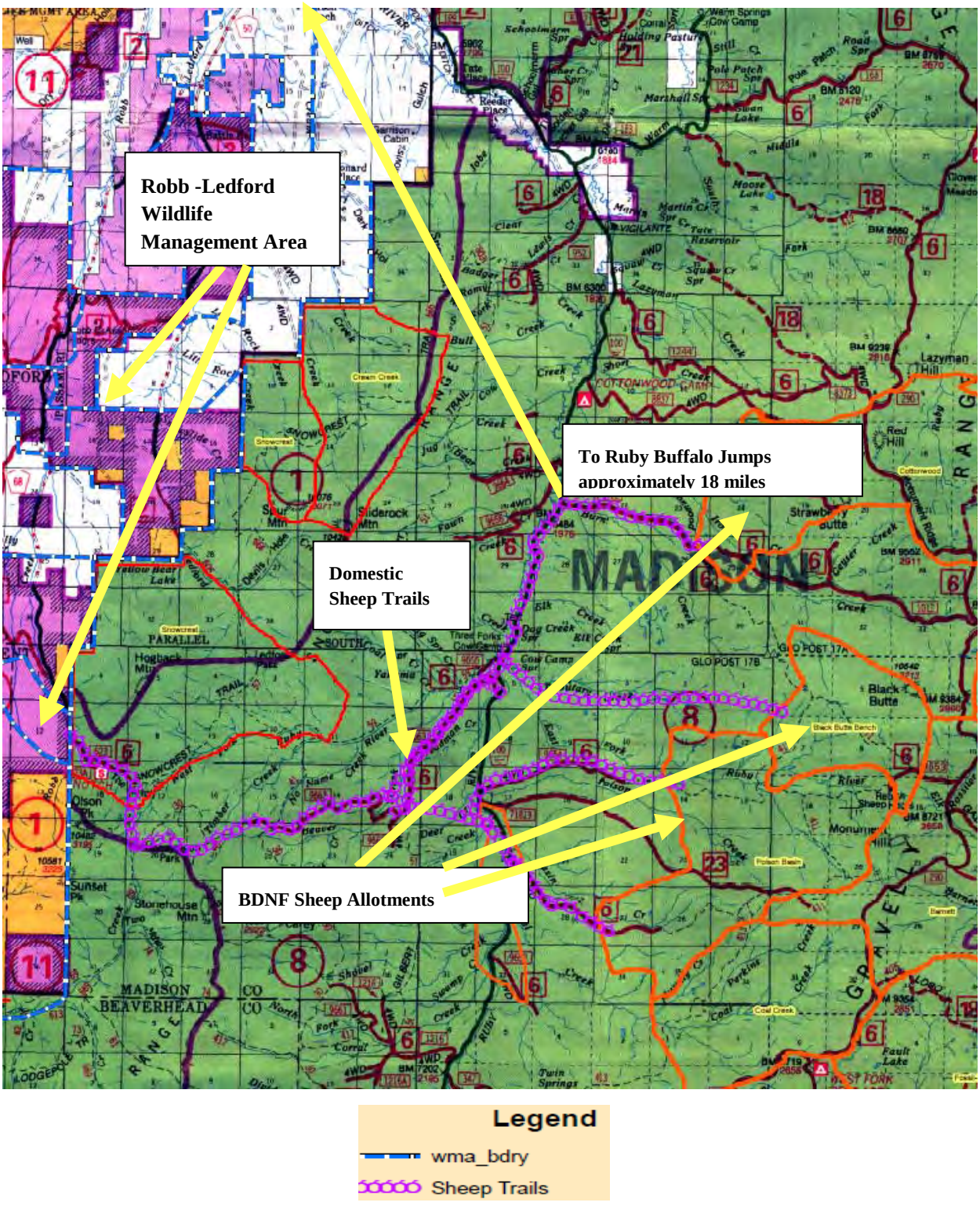


Figure 7. Approximate Location of Sheep Trails to BDNF Allotments

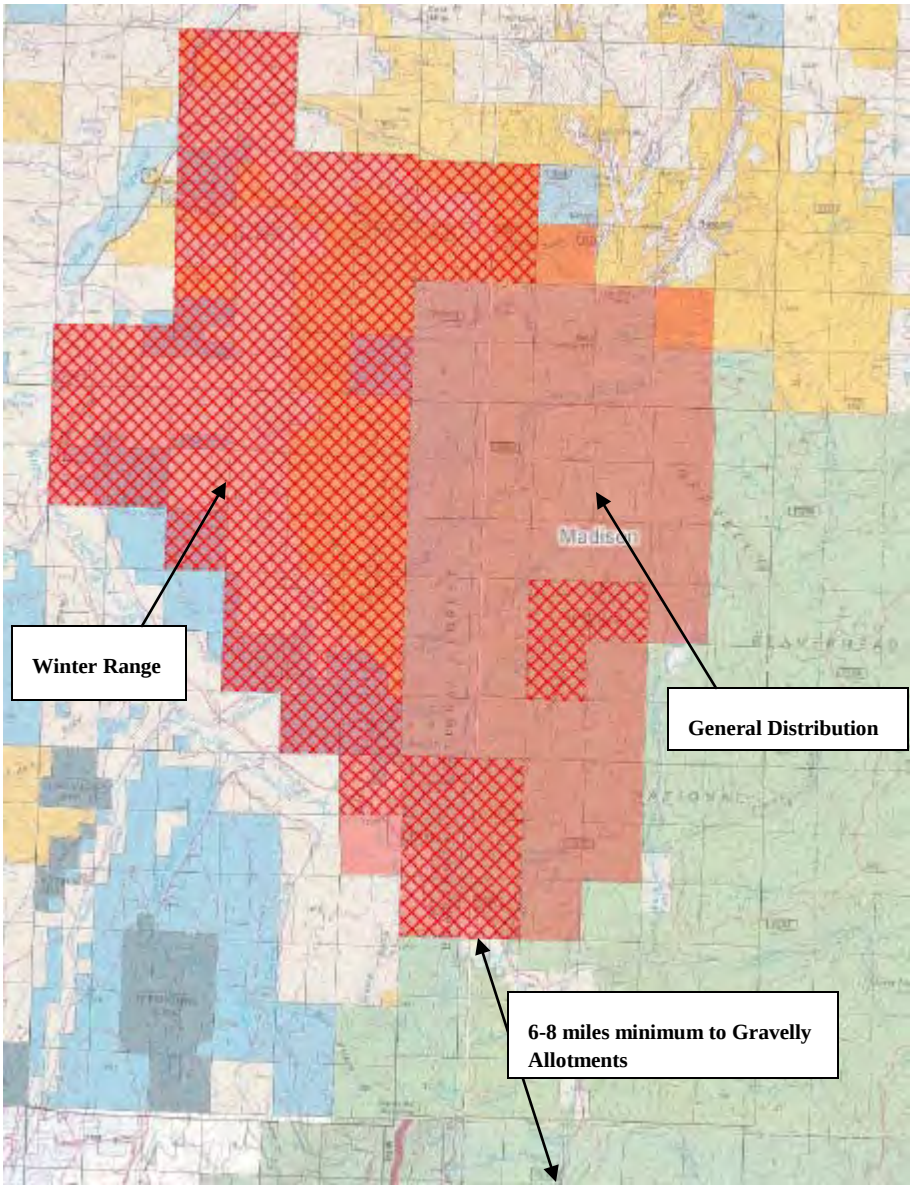


Figure 8. Ruby Greenhorn bighorn sheep distribution. (C.Fager- MT FWP Pers Comm, 2/04/2011)

Summary for Greenhorn Population

The Montana Bighorn Sheep Conservation Strategy (2010), (DMBSC) specifically notes that while domestic/wild sheep interactions are the issues for management of this population, there are no documented disease transmissions or interbreeding events for this population. Despite being issued kill permits from MFWP, Forest Service permittees have not used these permits to date. There is no documentation of wild sheep mixing with domestic animals on the seven Forest Service allotments or along the trailing route through BDNF lands from State Wildlife Management Area lands shown on Figure 7.

The initial transplants totaling 69 sheep have been reduced to 35 animals through mortalities

and management removals by MFWP per agreements with domestic sheep producers (MFWP 2010).

The Montana Bighorn Sheep Conservation Strategy (2010) notes that removal of bighorn sheep, per agreements with local sheep producers relating to private land issues, have precluded expansion of this population. At the current rate of removal, this population is not likely to achieve population objectives (MFWP 2010). **Removals have not been related to the presence of domestic sheep on the BDNF.**

Spatial separation of Forest Service sheep allotments and the Greenhorn population is 7-17 air miles minimum. Separation between the closest points of the trailing routes and bighorn detections along the Ruby River buffalo jumps is approximately 18 miles (Figure 7). While no hard and fast buffer distances are recommended in the Montana Conservation Strategy (2010), the strategy does cite buffer zones of a minimum of 9 airline miles being used (Recommendations to Federal agencies – 5). The discussion on the Greenhorn population in the Strategy indicates there has been sufficient separation between the two species.

The Montana Bighorn Sheep Conservation Strategy (2010) is silent on whether additional transplants into this population will be pursued, but Montana FWP has indicated that pursuing additional transplants is unlikely even in the absence of domestic sheep (Tomasik Pers. Comm 2-04-2011)

While wild sheep from the Greenhorn population have routinely been detected west of the BDNF boundary (MFWP 2010), The Montana Bighorn Sheep Conservation Strategy (2010) is silent on desired expansion into other locations on or near the BDNF.

Forestwide direction provides for coordination with multiple Federal, State, local, and tribal entities to resolve species needs on issues going beyond Forest Service boundaries and authorities.

The revised Forest Plan Wildlife Standard 5 provides for the closure of vacated sheep allotments and prohibits increased permitted domestic sheep use in the Gravelly landscape in the event that a sheep allotment is vacated. There will be no increased sheep grazing on the BDNF in the Gravelly landscape for the duration of the Plan. Coupled with the previous closure of four historic sheep allotments USDA Forest Service 2008), domestic sheep grazing is on a downward trajectory in the Gravelly landscape.

It is our conclusion that based on available information, there is sufficient management direction in place to allow continued domestic sheep grazing on the Gravelly allotments.

Tendoy Population Review

Bighorn sheep in the Tendoy and Beaverhead Mountains are introduced populations on historic bighorn range. Transplant records vary, but the Tendoy herd was started with an initial transplant of about 39 in 1984 and another 14 in 1986. (MFWP 2010)

Table 3: Tendoy Population History

Location	Year Introduced	Origin	Number	Die-Offs
Tendoys	1984	Lost Creek, MT	39	1993 - 1999
	1986	Thompson Falls, MT	14	
	1997	Rock Creek, MT	19	
	2002	Sun River, MT	30	

Table 4: Population History IDAHO Unit 30/30A (Figure 12)

Year (Idaho F&G 2009)	Total Sheep	Die-Offs
Idaho Unit 30A 1985 Introduction	22	Unknown
Idaho Unit 30A 1988 Introduction	17	“
1992 Survey	32	”
1997	26	“
1999	50	“
2000	52	“
2001	44	“
2002	37	“
2003	40	“
2004	61	“
2005	49	“
2006	28	“
2007	34	“

“Bighorn sheep in the Tendoy and Beaverhead Mountains are introduced populations on historical bighorn range. . . About 100 bighorns occupy Hunting District 315, with about 70 in the Tendoys and about 30 in the Montana portion of the Beaverhead Mountains” (MFWP

2010). The latter sheep constitute an interstate population that straddles the Continental Divide, typically summering in Montana and wintering in Idaho Hunting Units 30 and 30A. (MFWP 2010). Since this herd primarily resides in Idaho, much of the actual herd management is the responsibility the Idaho Fish & Game (Figure 13). The herd generally returns to the Idaho side to rut and winter (Montana FWP 2010). Montana FWP is not aware of any mixing between the two populations (C.Fager pers.comm 2/08/11)

"Initial introductions of bighorns into the Tendoy Mountains flourished for almost a decade. However, since 1993 the population has suffered two major pneumonia lungworm die-off events and a transplant that was largely a failure in 1997" (MFWP 2010). "The 2002 transplant, comprised of mostly females, has survived and produced sufficient lambs to slowly grow the population despite unusually high lungworm loads in the population. (Lungworm is a native, respiratory tract parasite that may act as a stressor that can lead to pneumonia.) (MFWP 2010)

The composition of this transplant may have been important in its success. *Given these factors, the department has decided to not add additional bighorns to this population. The management theory is that additional bighorns may introduce new organisms that promote immunological stress in the existing population.* ***In this regard, the Tendoy hunting district is acting as an experiment in sheep management****."*-(emphasis added) (MFWP 2010) The Tendoy hunting district (Figure 12- 315) encompasses all of the distribution shown at Figure 11.

"The Tendoy herd currently has high lungworm loads, including the highest load ever documented in Montana. FWP has attempted some treatment for lungworm at bait stations as recently as 2006, but has subsequently decided there is more risk from artificially concentrating sheep than reward from reducing lungworm loads." (MFWP 2010)

The Indian Creek and Bear Canyon sheep grazing permits are held by one permittee. They are located in the southern portion the Lima-Tendoy landscape on either side of Medicine Lodge Creek (Figure 9). The Indian Creek allotment is located on the west side up to the Continental Divide from Morrison Lake on the South to approximately Erickson Creek on the north. The Morrison Lake pasture is the area of reported potential concern with bighorn sheep moving east of the Continental Divide from Idaho hunt unit 30A.

The west facing Bear Canyon Allotment is bounded on the east by the topographic crest with Porcupine Creek bounding the allotment on the south and Law Creek on the north (Figure 9)

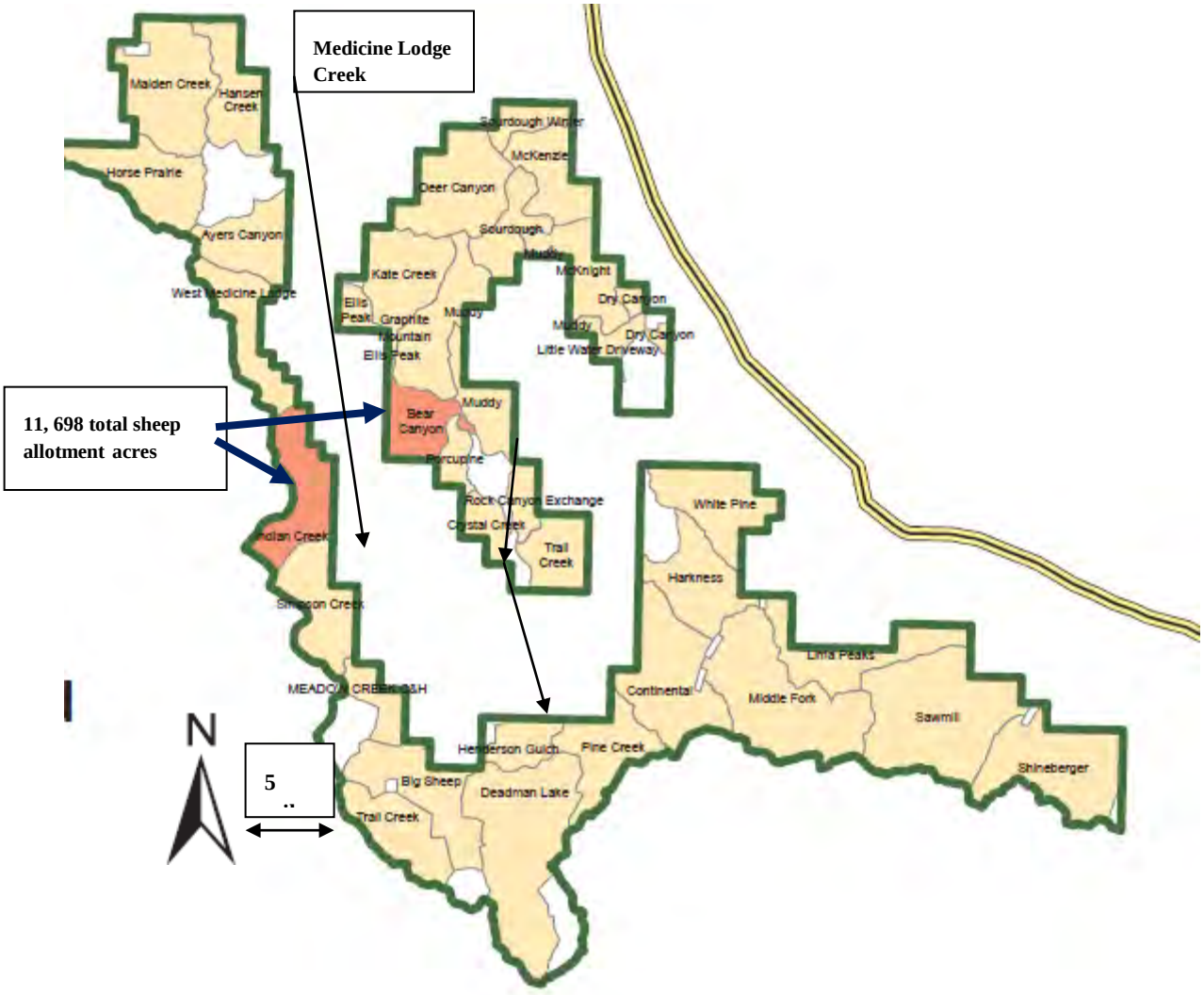


Figure 9: South Lima-Tendoy Landscape Sheep Grazing Allotments

Domestic sheep grazing on the Bear Canyon allotment are separated from the main bighorn detections to the east by approximately 4 miles (Figure 10). There is no separation from Idaho at the Indian Creek allotment. To date, Montana has not had to institute any management removals of bighorns despite variable proximity to domestic sheep (MT FWP 2010) on either the Indian Creek or Bear Canyon allotment.

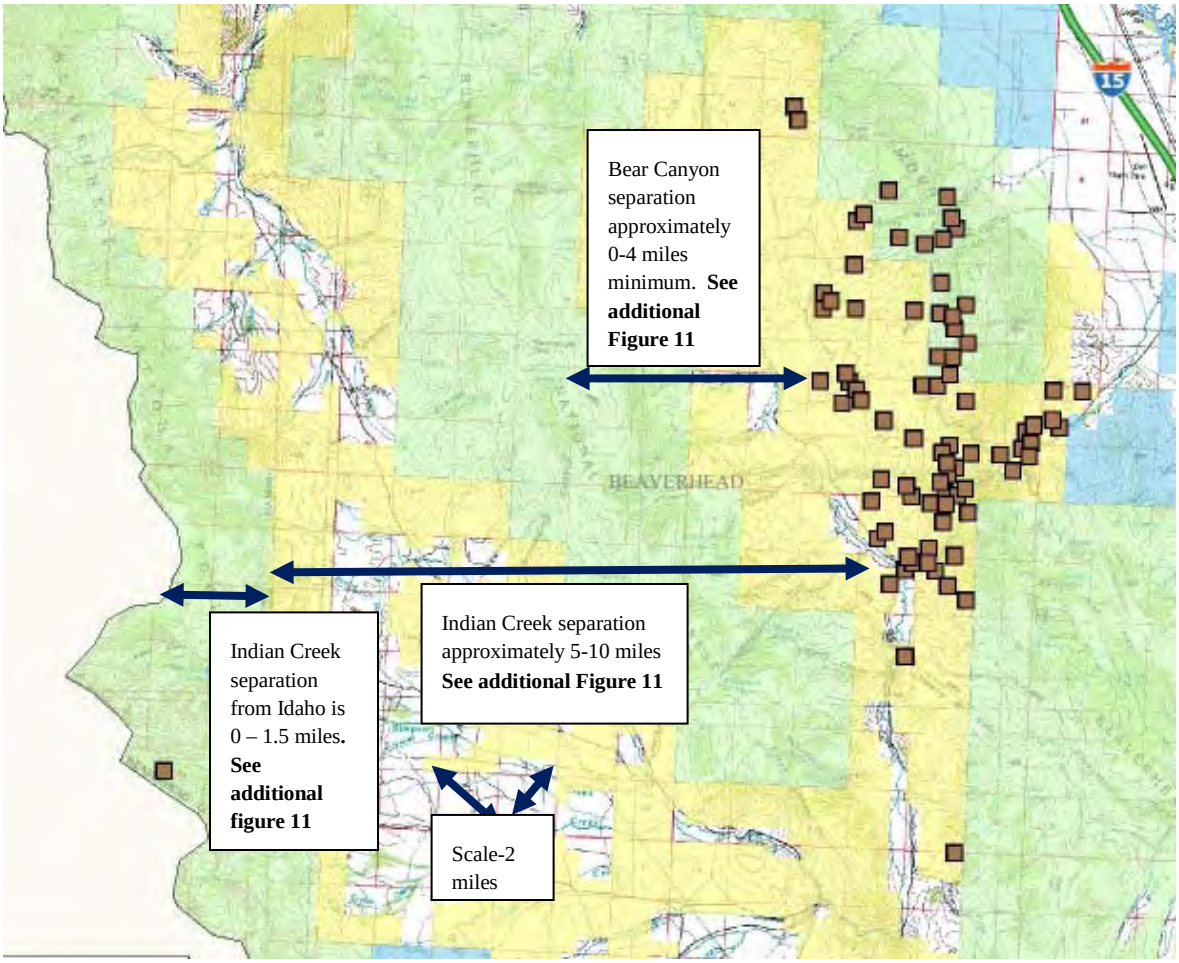


Figure 10: Tendoy Bighorn Sheep Detections (Mt. Natural Heritage Tracker-accessed 02/08/2011)

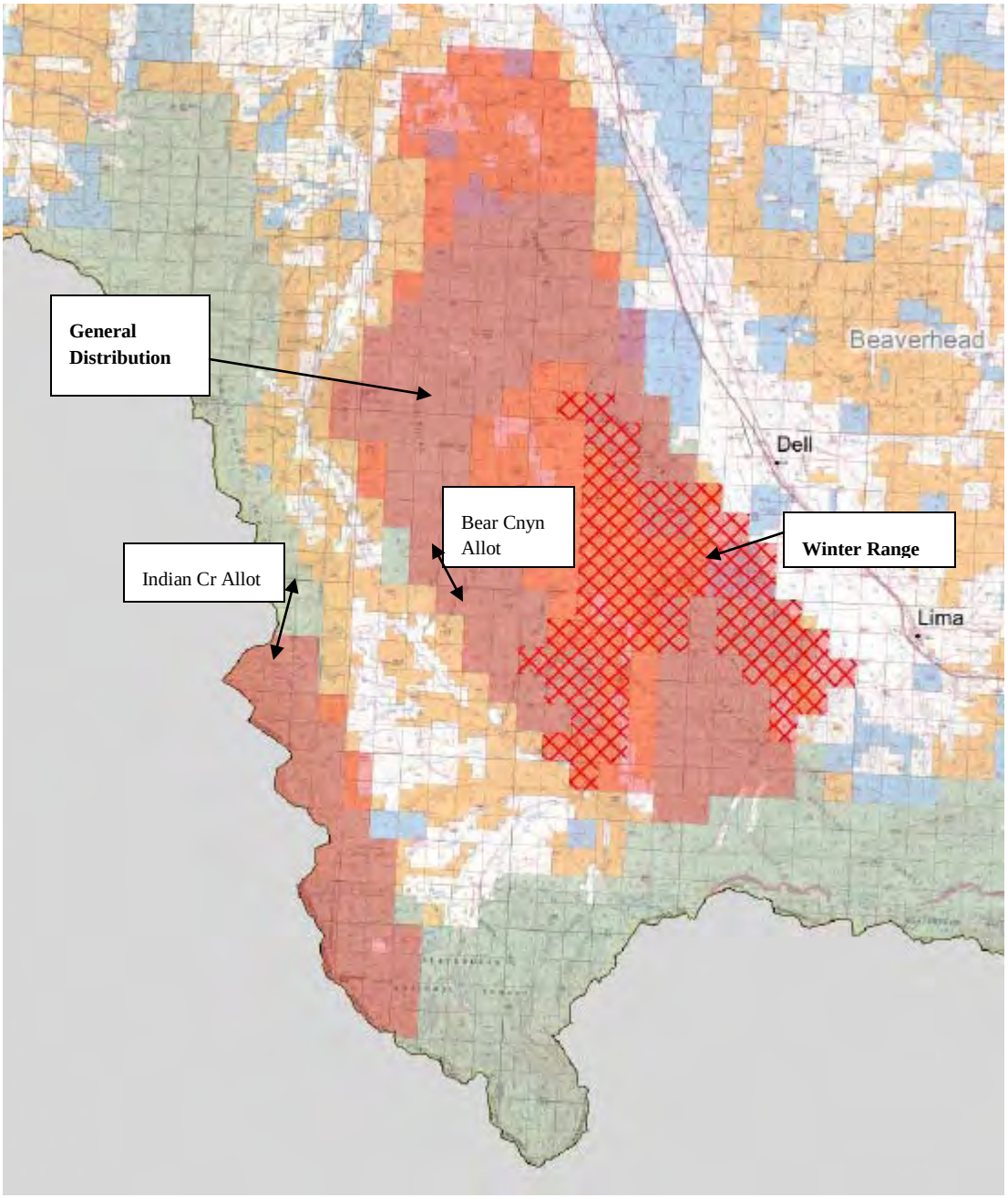


Figure 11. Lima-Tendoy Bighorn Sheep Distribution (C. Fager Pers Comm 2/04/11)

"There are four domestic sheep producers within the district (Bighorn Hunting district 315 – Figure 13) mostly well removed from occupied bighorn sheep habitat. There is one USFS domestic sheep allotment that poses some risk to wild sheep in one pasture in the Beaverhead Mountains (Indian Creek allotment) and another allotment in Idaho that will preclude bighorn sheep expansion into the Red Conglomerate Mountains" (MFWP 2010). Only one operator grazes on the BDNF.

The potential risk area is the Morrison Lake pasture of the Indian Creek Allotment (Craig Fager – Pers Comm 2-04-2011). The bighorns in this area appear to be Idaho sheep that occasionally wander over the Continental Divide from Idaho hunt unit 30/30A (Figure 13).(Reyer Rens, pers comm.) Craig Fager, Montana FWP Dillon area wildlife biologist is not aware of any conflicts on the Bear Canyon allotment (Pers Comm 2-04-2011). The Idaho bighorn sheep along the Continental Divide are not classified as a species of special concern in the Idaho Comprehensive Plan-2005 (Appendix E), but are classified Forest Service sensitive on the neighboring Salmon-Challis NF as of 7/29/2009 (Appendix F). The Indian Creek and Bear Canyon allotment folders contain no documentation from either Idaho F&G or Montana FWP regarding bighorn sheep concerns and domestic sheep grazing along the mutual border. There are no specific instructions regarding potential domestic/bighorn sheep management issues in the annual operating instructions.

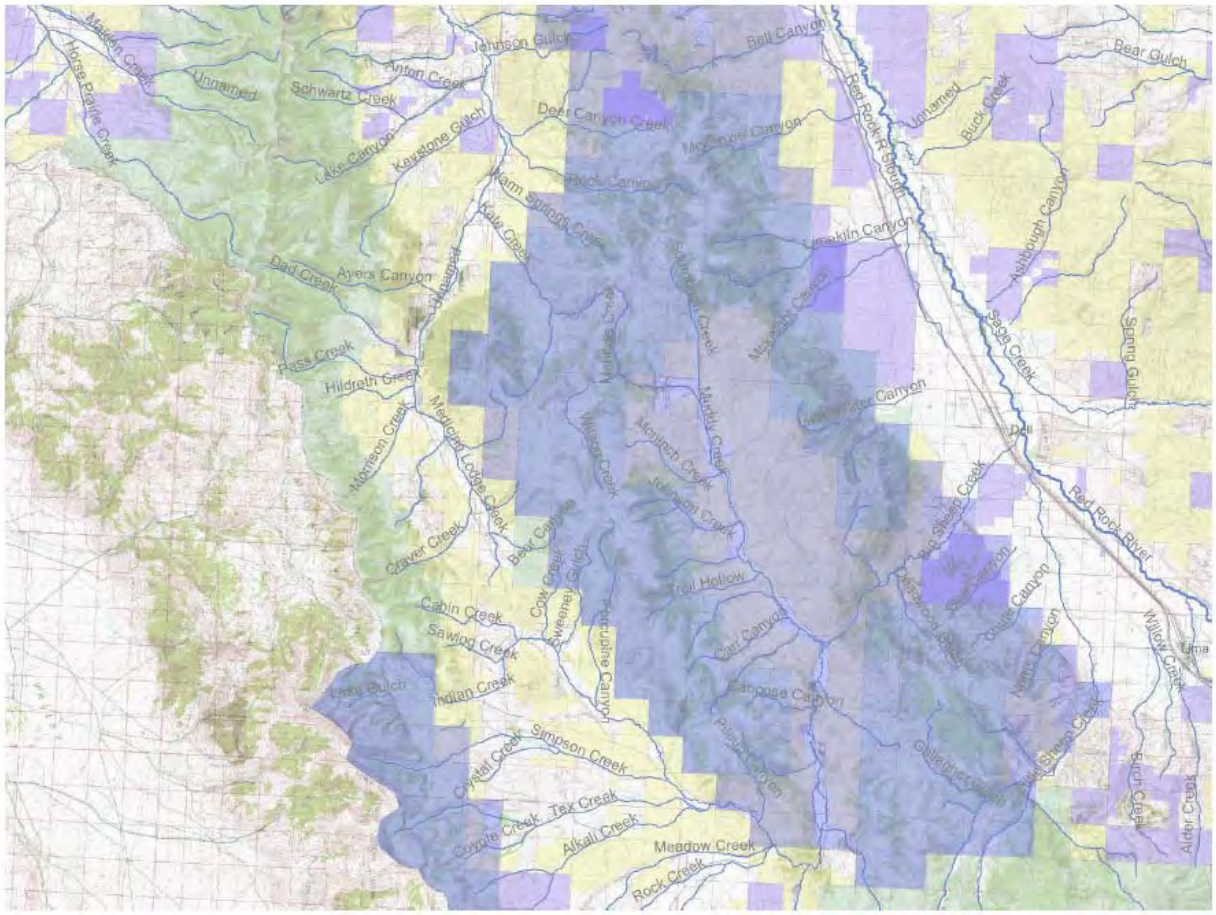


Figure 12: Tendoy Mountains - Bighorn Sheep 315 Legal Description
That portion of Beaverhead County lying within the following described boundary: Beginning at the junction of Interstate 15 and Route 324 (at Clark Canyon Dam), then westerly along said route to its junction with the Medicine Lodge-Big Sheep County Road 257, then southerly along said route to the divide between Ellis Peak and Tepee Mountain at Pass Creek, then westerly along Pass Creek to the Montana-Idaho border, then south along said border to Italian Peak, then northeast and easterly along said border to Interstate 15 at Monida Pass, then northerly along Interstate 15 to its junction with Route 324 at Clark Canyon Reservoir, the point of beginning. 2009) **Montana FWP Hunt Planner accessed 2/04/2011**

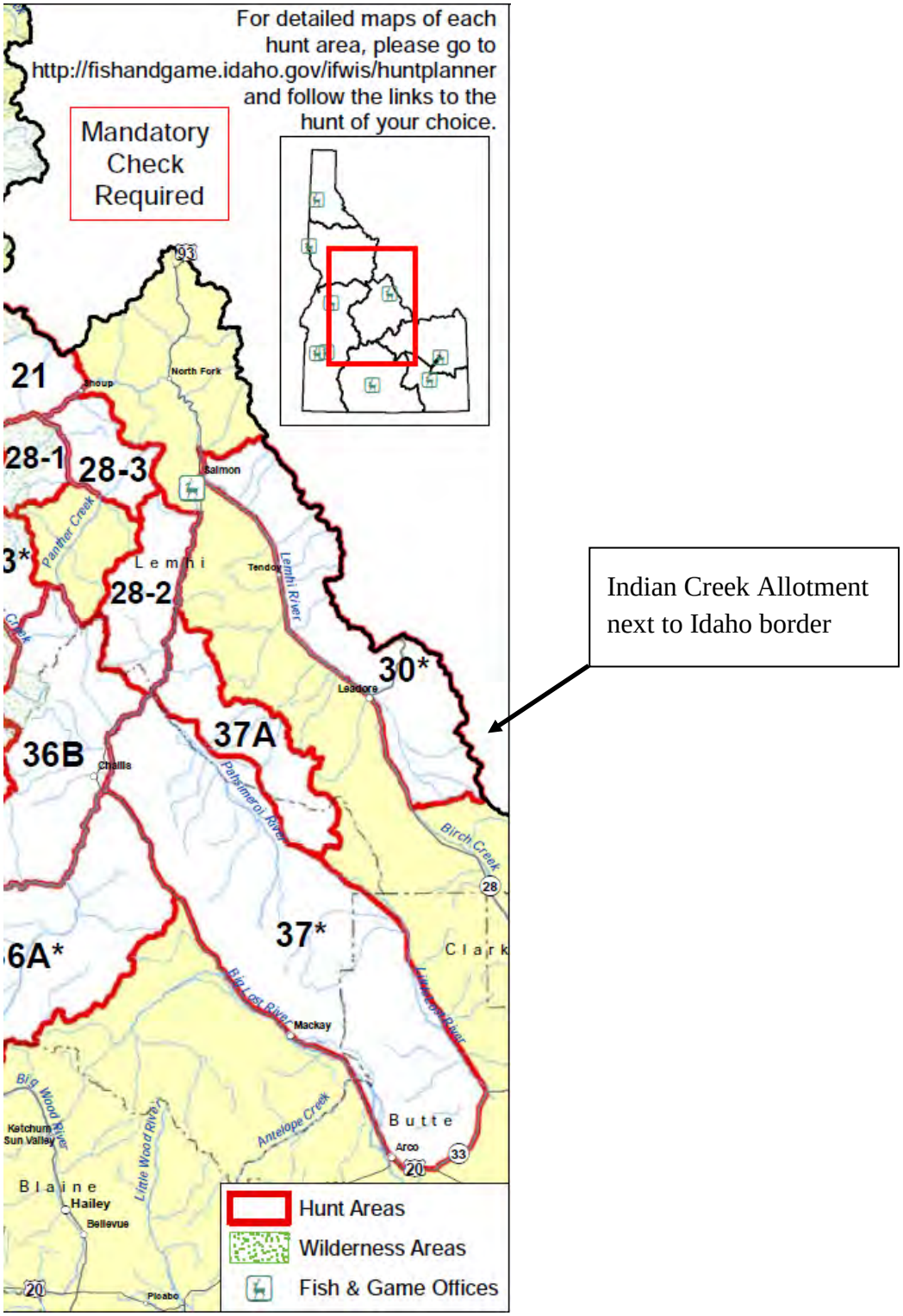


Figure 13. Idaho Bighorn Sheep Hunt Unit 30/30A (Idaho Department of Fish and Game Hunt Planner – accessed 2/25/2010)

The Montana Conservation Strategy is silent on management approaches to Forest Service sheep allotment practices regarding this population. The Strategy does note that representatives from MFWP and the Foundation for North American Wild Sheep have met with one of four producers in the area to seek amicable solutions to maintain separation between the two species.

While the Montana Bighorn Strategy (MFWP 2010) acknowledges maintaining separation of wild and domestic sheep in the area is a significant concern, there have been no management removals of bighorns to date.

The Strategy concludes its population management discussion by noting: "Population management strategies will focus on maintaining bighorn numbers consistent with allotment and other land use plans on private, BLM, and USFS administered lands" (MT FWP 2010).

Idaho Fish and Game population numbers in 30/30a appear to be static – 32 in 1992, high of 61 in 2004, 34 in 2007 (Table 4)

Summary of the Tendoy Population

Spatial separations of Forest Service sheep allotments, and the predominant portion of the population on the east side of the Medicine-Lodge/Tendoy Management Area, are highly variable. The Indian Creek Allotment borders Idaho with little to no separation from Idaho bighorns (Figures 10 & 11) and 5-10 miles separation from the Tendoy population. The Bear Canyon allotment has approximately 4 miles separation from the Tendoy reported detections. Craig Fager (FWP area biologist-Pers Comm) is not aware of any conflicts in the Bear Canyon allotment nor any mixing between the populations (Pers comm.. 2/08/2011).

While no hard and fast buffer distances are recommended in the Montana Conservation Strategy (2010) the discussion of the Tendoy population clearly states that the four domestic sheep producers in the area are mostly well removed from occupied bighorn sheep habitat. The Montana Bighorn Sheep Conservation Strategy (2010) notes that additional augmentation is not planned. The management theory is that additional bighorns may introduce new organisms that promote immunological stress in the existing population. In this regard, the Tendoy hunting district is acting as an experiment in sheep management.

The Montana Conservation Strategy notes the Tendoy population has the highest lungworm load of any population in the State. *No additional transplants will occur as new potential pathogens from additional bighorns may add to immunological stress of the population. Consequently the herd is acting as an experiment* (MFWP 2010).

The Montana/Idaho interstate population along the Continental Divide appears to be stable (Table 4).

There have been no management removals to protect the population from adverse interactions with domestic sheep.

MFWP's greatest concern regarding separation of the species on Forest Service allotments appears to be along the Continental Divide at a portion of the Indian Creek allotment bordering

Idaho. Despite years of domestic and bighorn species living in proximity to each other, there have been no reported management removals of bighorns anywhere in southwest Montana protect the species from adverse contact with domestic sheep on Forest Service allotments.

Forestwide direction provides for coordination with multiple Federal, State, local, and tribal entities to resolve species needs on issues going beyond Forest Service boundaries and authorities. It is our conclusion that based on available information, there is sufficient management direction in place to allow continued domestic sheep grazing on the Gravelly allotments.

Determination of Beaverhead-Deerlodge National Forest Potential Bighorn Sheep Interactions with Domestic Sheep

Rationale:

1) Proximity of bighorn sheep to BDNF Forest Service allotments occurs exclusively in two landscapes located on the BDNF: Gravelly and Lima-Tendoy. Domestic sheep allotment acreage by landscape encompasses 54, 892 and 11, 698 acres respectively. These acreages represent 11.7% and 3.2% of the respective landscapes in Forest Service ownership and combine to represent approximately 2% of the Forest's total land base.

2) Separation of sheep allotments from known bighorn populations is 7-18 miles minimum in the Gravelly landscape, and 0-4 miles minimum from the bulk of the Tendoy population in the Lima-Tendoy landscape. Separation from Idaho sheep along the Continental Divide in the Lima-Tendoy landscape is 0 – 1.5 miles. Montana FWP has indicated one pasture (Morrison Lake) of the Indian Creek allotment is of concern regarding potential contact between the species. The FWP area biologist is not aware of any conflicts on the Bear Canyon allotment. There have been no management removals associated with domestic sheep contact.

3) There are no 2009-2010 Montana bighorn sheep die offs associated with any BDNF allotments nor any Forest Service sheep allotments in Montana

4) The interstate population along the Continental Divide in the Beaverhead Mountains appears to be stable (Table 4).

5) The Montana Bighorn Sheep Conservation Strategy (2010) has not highlighted any interspecific co-mingling in the Beaverhead and Tendoy populations.

6) The Dillon area FWP biologist is not aware of any mixing between Beaverhead and Tendoy populations. (C. Fager pers. Comm..)

7) Ownership of bighorn sheep distribution across the BDNF is highly discontinuous. All populations, including those experiencing die-offs (Table 4) are bordered by non-Forest Service ownerships that harbor domestic sheep operations (Appendix K)

8) The Montana Bighorn Sheep Conservation Strategy (2010) has specifically identified the Tendoy population as an "experiment" in bighorn sheep management. No augmentation of this population is contemplated due to the highest incidence of lungworm in the State. Montana Fish, Wildlife, and Park biologists feel there is greater risk to this population because of potential pathogens from adding wild sheep. "*The management theory is that additional bighorns may introduce new organisms that promote immunological stress in the existing population**. In this regard, the Tendoy hunting district is acting as an experiment in sheep management**.*"

9) Montana FWP has signaled that the Gravelly Range would not be augmented with additional bighorns even in the absence of Forest Service sheep allotments. This is due to surrounding lands being occupied by domestic sheep. (Eric Tomasik pers. Comm.) See Appendix K for inventory.

10) The Montana Bighorn Conservation strategy notes that there has been sufficient separation between domestic and the bighorn sheep in the Gravelly landscape.

11) There are no documented management removals of bighorns in the Greenhorn population related to interspecific contact on Forest Service allotments.

12) The BDNF ownership is characterized by "island landscapes" (Figure 4) that are surrounded by mixed ownerships in 7 counties. All of these counties are populated by domestic sheep (Appendix K) that pose a potential risk of adverse contact to bighorns. This contact is entirely out of the control by the Forest Service, let alone the BDNF.

13) The Montana Bighorn Sheep Conservation Strategy (2010) "Protocols for Trapping and Transplanting Bighorn Sheep to New Areas and Augmenting Existing Populations" directs a comprehensive evaluation process to be done by Montana Fish, Wildlife, and Parks. An environmental assessment by MFWP, in compliance with the Montana Environmental Policy Act, must be prepared for each new potential transplant site.

14) The 2009 BDNF Forest Plan, Forestwide Direction (page 11) provides for coordination with multiple Federal, State, local, and tribal entities to resolve species needs on issues going beyond Forest Service boundaries and authorities.

15) The 2009 BDNF Forest Plan, Wildlife Standard 5 prevents new additional sheep in the Gravelly landscape should an allotment become vacant. Should a sheep allotment become vacant in this landscape, the allotment will be closed to sheep grazing or used by an existing sheep permittee with no increase in use.

16) The 2009 BDNF Forest Plan, Livestock Standard 5 directs that allotment management plans will identify specific criteria for special areas where limiting grazing at certain times of the years or under certain conditions is necessary to protect resources. This is compatible with coordinating management of wildlife species with Montana Fish, Wildlife, and Parks.

17) MFWP Regions 2 & 3 comments to the FEIS (Appendix A) are silent on bighorn sheep.

18) MFWP Comprehensive Fish and Wildlife Conservation Strategy (2005) classify bighorn sheep as a Tier 3 species (lowest conservation need).

19) Bighorn sheep are not on the Montana Species of Concern List (Appendix B) Montana FWP/Natural Heritage Program re-evaluated the species in light of the 2009-2010 die-offs and maintained heritage ranking of S4. (Appendices I & J). This means that the species is classified as secure in Montana and does not warrant elevation to the Montana Species of Concern list. .

20) Bighorn sheep are not included in the Northern Region Sensitive species list (Appendix C) thereby requiring special management attention.

21) At the Forest scale domestic sheep grazing allotments do not appear to be a spatially limiting factor (Figures 6 & 9). As noted at 18) BDNF land ownership is discontinuous across southwest Montana. All bighorn populations on the BDNF incur risk of adverse contact with domestic sheep on the valley floors in private ownership (Appendix K). Given the propensity of bighorn sheep to wander, the greatest challenges to maintaining separation between domestic and wild sheep will be with non-Forest Service permitted operations

22) The Payette NF decision model is not appropriate for the BDNF nor the entirety of Montana portion of the Northern Region. The Payette NF grazes more permitted sheep than the entirety of NF permitted operations in Montana (Table 1) Payette NF sheep operations also overlay known bighorn sheep habitat that is in contiguous Forest Service ownership for both species (Figure RR-3)

The combination of Beaverhead-Deerlodge National Forest (BDNF) revised Forest Plan direction providing for coordination with MFWP bighorn sheep management, and allotment-specific management through AMPs that consider other resources provides sufficient direction for overall sheep management on the forest. The documented lack of management removals of bighorns related to BDNF sheep allotments for the Tendoy, Beaverhead, and Greenhorn populations, adequate population separation in the Gravelly landscape, and the entirety of hunt unit 315 (Beaverhead-Tendoy populations) being viewed as an experiment in sheep management indicate that a specific amendment for bighorn sheep management is not warranted.

Sheep allotments in the Gravelly Mountains are scheduled for AMP revision beginning approximately 2013. Sheep allotments in the Lima-Tendoy Mountains are scheduled for AMP revision in approximately 2014.

I concur:

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Leslie A.C. Weldon

Regional Forester

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Appendix A: Montana Fish, Wildlife & Parks Comments to FEIS

Pages 895 – 919 FEIS (USDA 2009)

would have been helpful. As always, we appreciate your continued commitment to involve our field staff on all future project proposals that could potentially impact the fish, wildlife and recreational resources MFWP is responsible for managing.

Response: The additions of an acronym section, as well as index to the roadless area maps have been incorporated into the Final FEIS and Final Plan.

MANAGEMENT INDICATOR SPECIES (MIS)

Comment 2: The selection of the wolverine as the only mammalian Management Indicator Species continues to be a serious concern. Wolverines are a low-density species, which are difficult to detect and primarily use landscapes that are not actively managed by the Forest Service. There is no proven monitoring tool for wolverine, it is unclear how they will respond to management activities and it will be extremely difficult to accurately detect changes in populations. (Extraordinary effort will be needed to make any statistically valid conclusions at a landscape scale- see Bill Zielinski's research on fisher in California for an idea of the effort needed to detect population changes with a rare forest carnivore). Using wolverine as an MIS has the potential to halt many actions and activities across the Forest for lack of site-specific data. Fish, Wildlife and Parks' ability to conduct furbearer surveys is limited to a few snowmobile routes annually. Some of these routes are in areas that are marginal wolverine habitat; some could construe the absence of wolverines on these routes as a problem. Further, wolverines travel over extensive areas and are not detected some years in the best of habitat. A recent court ruling has reemphasized the importance of using "actual, quantitative population data" for MIS monitoring as reflected in the 9th Circuit's decision on the Fishlake National Forest logging project in Utah.

While we have specific concerns over the use of the wolverine for MIS, we do applaud the commitment to monitor the mayfly, *Drunella doddsi* forestwide. We further suggest the addition of the large native freshwater clam to the aquatic monitoring program for all of the reasons noted in our prior comments on the Proposed Action.

Our initial recommendation (during scoping) to include other wildlife such as elk and Westslope Cutthroat Trout (WCT) as MIS, was based on their abundance and importance. There is good long-term monitoring data available on their populations and we know something about how they respond to land management activities. We acknowledge your explanation (scoping letter response) as to why you do not consider these other species appropriate for MIS. However, we continue to question if the MIS concept can be considered valid if you are intending to use only the wolverine and the mayfly. In subsequent discussions with you on this subject, we are encouraged by your assurance that the other species will be taken into account during the analysis of site-specific projects. This assurance is critical for our field staff to continue to make meaningful input during the development and implementation of these projects so that we don't lose the ability to protect fish, wildlife and habitat resources on a site-specific basis (regardless if particular species are or are not designated as MIS).

There is almost no discussion of monitoring, standards or goals for nongame and big game species. The Forest Service under the National Forest Management Act has an obligation to manage federal lands for a variety of species, but there is only cursory attention to non-Threatened and Endangered wildlife in the Draft Forest Plan.

Comment 7: Fuels Management, page 33, Vol. 1, DEIS - Alternatives 3-5 list plans to reduce condition class 2 & 3 timber by 70,000 – 105,000 acres. While we recognize the concerns regarding fuel reduction, we are hopeful this does not pre-empt FWP's ability to recommend protection for key coniferous growth habitats for wildlife when they are identified during individual project reviews.

Response: The Forest will continue to work closely with FWP in the development and implementation of any fuels or vegetative projects.

WILDLIFE

Comment 8: Winter Range, pages 104 & 106, Vol. 1, DEIS - The Draft EIS implies that the Beaverhead-Deerlodge provides primarily "spring calving, summer range, and fall ranges" and that the majority of winter range for elk is privately owned.

Spring calving, summer range, and fall ranges occur primarily on this Forest. (page 104).

Winter range carrying capacity on the national forest is not as high as the majority of the winter range is in private ownership. (page 106)

Response: This has been clarified in the Final EIS, using the latest mapping provided by Montana FWP. See Chapter III, under the heading Wildlife in the Final EIS.

Comment 9: The document should be changed to reflect that the National Forest provides critical winter range in most Elk Management Units and winter range is a complex pattern of both private and public lands wherever elk occur. Over the years we have spent countless hours mapping winter ranges; perhaps these resources need to be reviewed between the biologists of our respective agencies. Our field biologists are more than willing to help in this endeavor.

Response: As noted above, the BDNF has worked with Montana Fish, Wildlife & Parks to provide a better portrayal of elk winter ranges.

Comment 10: Wildlife Objectives, page 8, DFP - An objective must be measurable and achievable. The first objective (listed below) described for wildlife is too general; there is no way to measure progress toward this objective:

Wildlife Habitat: Manage vegetation for a diversity of vegetation and habitat types to meet wildlife needs.

Response: Diversity of habitat is crucial towards maintaining a broad range of wildlife that can persist on the forest. As noted in the vegetation section, there is a pronounced bulge (Table 4) in mid-seral age classes for all the major conifer types. More importantly lodgepole pine is modeled as occupying 3-7 times the historic proportion of forest. This is paralleled by a 12-17 fold reduction in quaking aspen. The primary BDNF vegetation management objective will be to produce an increasing trend in aspen and a reducing trend in lodgepole. Diversity in habitat types and seral stages is expected to produce a more resilient landscape that can support a diversity of wildlife.

As noted in Samson (2006), Gallant et al. (2003: 385) in the Greater Yellowstone Ecosystem found " the primary forest dynamic in the study area is not the fragmentation of conifer forest by logging, but the transition from a fire-driven mosaic of grassland, shrub land, broadleaf forest, and mixed forest communities to a conifer-dominated landscape." Area of conifer-dominated

15 years. The standard provides the minimum requirement so the Forest does not move away from achieving the objective. This objective will mainly be achieved through site-specific travel planning and not individual projects.

For those hunting districts that have road densities below objectives, the expectation is that additional roading up to the objective ceiling can occur. Any projects that may exceed road density objectives will require the closure of roads to remain at or below the objective ceiling. Specific road closures will be determined by project specific NEPA . We expect that Forest service and State biologists will continue to work closely at the project level to evaluate specific impacts.

Secure areas are defined as >10 acres and > 1/3 mile from an open motorized road or trail. This definition is based on the secure habitat definition for grizzly bears from the Final Conservation Strategy for the Grizzly Bear in the Yellowstone Ecosystem (2003). We consider secure habitat for grizzly bears as providing for wildlife security and connectivity. Figures 43 & 48 of the DEIS graphically display the location of secure areas for summer and fall respectively. Table 34 shows that 23 of the 29 hunting districts lands on the BDNF exceed 50% secure habitat. The remaining 6 range from 33% to 47% secure habitat. We believe the synergy of low open road densities and secure habitat provide for a high degree of permeability for large wildlife movement across the BDNF.

Figures 43 & 48 display there can be less resistance to movement along the western edge of the forest due to the absence of interstate highways, other road impediments, and private land developments. There is contiguous forest ownership (Targhee NF) bordering BLM lands along the Centennial Mountains and BDNF borders with the Targhee to the south; Salmon-Challis, Bitterroot, and Lolo to the west, and Targhee-BDNF (Lee Metcalf Wilderness)-Gallatin NF to the east. Permeability to wildlife along a Gravelly-Tobacco Roots-Boulder River axis to the Helena NF is much more problematic to the large areas in between that are in private ownership and transected by Interstate highways 90 & 15.

Comment 15: Winter range in Perkin's Gulch, Baggs Creek and Racetrack Creek – these areas should be given a winter non-motorized designation.

Response: The Forest acknowledges FWP interest to have these areas allocated as winter non-motorized. Alternative 6 identified Racetrack Creek as winter non-motorized, but does not carry that allocation for Perkin's Gulch or Baggs Creek.

Comment 16: Road densities in the Clarkfork and Rock Creek Landscapes - A maximum of 1 mile of open road per square mile should be the objective in the Clarkfork, Upper Clarkfork and Upper Rock Creek landscapes. Existing road densities within Upper Rock Creek are below .5 mile per square mile and should be maintained.

Response: The current road density of the Upper Rock Creek landscape is approximately 0.9 miles per square mile. The motorized density objectives referred to in the revised forest plan include both motorized roads and trails. This is a more stringent object than just measuring roads. Alternative 3 recommended a summer road/trail density of 0.9 miles per square mile. The current open motorized road/trail density for Clark Fork, Upper Clark Fork and Upper Rock Creek landscapes are 1.8, 2.0, and 0.9 respectively. The objectives for these areas under Alternative 6 are 1.9, 2.0, and 0.9 respectively. To get Clark Fork and Upper Clark Fork to 1.0 miles per square mile would require the closure of approximately 690 miles of currently used

Anaconda, we should collectively consider how we are going to address garbage disposal and food storage on all the Forest as well as BLM and FWP properties. It is quite likely that grizzly bear range will expand significantly during the life of the plan and food storage orders will become the norm across the forest and other jurisdictions. It is also time to start rigorously enforcing what camp cleanliness and food storage orders we have on the books. We encourage a multi-agency approach that considers both black and grizzly bears.

Response: We agree garbage disposal and food storage issues are likely to increase. The BDNF food storage order currently encompasses the entirety of the Madison, Gravelly, and Tobacco Root ranges. As grizzly bear range expands, we expect to expand food storage controls. This will be coordinated with the State. The Forest also agrees a multi-agency approach should be considered which includes both black bears and grizzly bears. This would be accomplished as part of implementation. This would not be a forest plan decision. Special orders can be issued by the Forest Supervisor without a plan amendment.

Comment 23: Stipulations, page 39, DFP - Where are the standards for the Deerlodge Unit? Only the Beaverhead Unit is mentioned.

Response: The existing oil and gas leasing decisions are being brought forward in the revision process. New oil and gas leasing decisions are not being for the Deerlodge unit of the B-D.

Comment 24: Surface Occupancy, page 40, DFP - We continue to recommend no surface occupancy for mineral development and time limitations for associated exploration and off-site activity. It appears there were no changes indicated for the Oil and Gas standards from those listed in previous scoping documents.

Response: A blanket standard of no surface occupancy (NSO) would preclude development of oil and gas on the Forest, contrary to national policy. NSO and other stipulations are used to protect identified resources.

Comment 25: Adaptive approach, grazing, page 32, DFP - Please define "adaptive approach" as used in Allotment Management Plans.

Response: Adaptive approach or adaptive management has been added to the glossary for the Final EIS and Final Plan.

Comment 26: Management Plans, page 32, DFP -. Do all allotments have management plans? Are the objectives for allotments presently with management plans being met? Is this information available for individual allotments?

Response: Most allotments have management plans. Compliance with those plans varies. The information is available for specific allotments.

VEGETATION

Comment 27: Model for "historic condition." - We agree that the use of historic condition is the baseline for evaluating existing ecological condition. We also think that in certain areas there are other resource considerations, such as wildlife, that should drive specific vegetation management decisions.

Response: The Forest agrees.

Comment 28: Aspen, browse, page 7, DFP - Ambitious aspen restoration goals are identified in the plan. These goals are laudable but will be difficult to obtain without large-

Response: The standard in the Draft Plan was based on the best available science. We believe this standard (which applies to areas being managed) in conjunction with the large amount of existing woody debris, more than adequately provides habitat for the above species.

AQUATICS

Comment 38: The Draft Plan does not relate well to the DAMS document or the Proposed Action document in that some of the issues identified in the prior two documents are not included in the Draft Plan. As an example, the draft "Proposed Action for Forest Plan Revision" included "Beneficial Uses" under its Aquatic Resources Table. While this category does not appear in the current Draft Plan, Table 3, the issue remains pertinent. We suggest that the Plan commit to a thorough review of private irrigation diversions, ditches, and headgates on the Forest to promote proper stream function, fish passage, and high quality aquatic habitat while maintaining traditional beneficial uses. Major revision topics should be cross referenced under different categories where potential management conflict exists, e.g., the role of down woody material.

Response: The Final EIS and Revised Forest Plan have been reviewed and changes made.

Comment 39: Shared responsibilities - In order to maintain clarity and separation of jurisdiction, any statements regarding fish stocking, transplants, reintroductions, or removals should emphasize Forest cooperation with FWP.

Response: This has been clarified in the Final EIS and Final Forest Plan.

Comment 40: Lack of data, reports - All of the documents fail to support conclusions or management directions with existing data files or reports. A commitment to include annual written reports analyzing and interpreting aquatic resources data should be part of the Plan.

Response: The monitoring section of the Revised Forest Plan and Final EIS has been reviewed and changes made.

Comment 41: Fishless waters - We suggest that Aquatic Resources should address and protect the status of fishless lakes and streams. Alpine lakes management should acknowledge the role of stocking, recreational value and the value of maintaining fishless lakes. Fishless stream management should acknowledge maintenance and protection of barriers, habitat integrity, and future potential use for native species introductions.

Response: A discussion on fishless lakes has been added to the Final EIS and Final Forest Plan.

Comment 42: Sensitive species - We suggest that sensitive species accommodate all S1 and S2 classified fish species (Natural Heritage Program, American Fisheries Society, and FWP List) found within the Forest Boundaries.

Response: The sensitive species list and the criteria for selection are determined by the Regional Forester and are defined in a process outside of the Forest Plan.

Comment 43: Roads & stream crossings - We strongly support Forest efforts to analyze the influence of roads on riparian areas and the commitment to better manage stream crossings under a 100 year flood basis.

Response: Thank you for your comment.

Response: Thank you for your comment.

Comment 58: Wildlife riparian impacts, page 27, DFP - On page 27 of the Draft Forest Plan, in the second row of the table under Objectives, it discusses the "elimination of wildlife impacts that prevent attainment of the Riparian Management Objectives (RMO), etc." What is critical here is that the source and degree of impact be properly identified. This issue has caused considerable consternation and divisiveness between state and federal agencies, livestock lessees and the public. We suggest you change the narrative here to say something like: "…impacts from all sources (vehicular, human, livestock, wildlife, natural selection, etc.) that negatively impact the RMO need to be properly identified through adequate monitoring…." Proper monitoring and identification of the correct source of the problem can help answer questions about cause and effect, properly identify solutions and reduce any potential disputes over the issue.

Response: This objective has been reviewed and modified.

Comment 59: Beal Mtn Mine impacts, page 227, Vol 1, DEIS - Cumulative Effects on Conservation of TES Fish Species, paragraph 10. The water quality with the Beal Mountain Mine in the Upper Clark Fork is unacceptable for Westslope Cutthroat trout. Remediation of the mine and its pollution is critical to conservation of Westslope Cutthroat trout in the Silverbow drainage.

Response: As mentioned this is a site-specific decision and not a forest plan decision.

RECREATION AND TRAVEL MANAGEMENT

Comment 60: Objectives, page 29, DFP - Should the majority of "objectives" in the Recreation and Travel Management section relate to providing opportunities? Should some of the objectives address "management "objectives such as conservation of the forestwide resources that are the base of providing the opportunities? Balancing opportunities with objectives addressing historic management problems would seem an appropriate approach for this section. Forestwide objectives might include: managing motorized recreation to reduce off-road, unauthorized use; managing snowmobile use to minimize conflicts with wintering wildlife. We suggest that the Forest strive to provide a mix of both motorized and non-motorized opportunities where appropriate. For example, the Anaconda Pintler Wilderness management area (Clark Fork Flint Landscape) should not serve as a forestwide repository for non-motorized recreation opportunities.

Response: A range of recreation opportunities are displayed by Alternative 1 through 6.

Comment 61: Access needs - While we support the recommended closure of user created trails and elimination of the associated resource damage, we are concerned about concentration of motorized use. This may result from the recommended wilderness in the Pioneer and Italian Peaks and proposed motorized closures in the Tendoys, Beaverhead Mountains and Big Hole Divide. In addition, loss of access to the National Forest is a substantial contributing factor to crowding in remaining accessible areas. We believe we need to combine our resources to address this problem aggressively when an opportunity presents itself. Specifically a coordinated solution to the recently closed Lost Creek access in the East Pioneers needs to be found. Other accesses such as Squaw and Alder Creeks in the West Pioneers are being challenged. Other examples where reasonable public access is needed include: Squaw Creek in the West Face Niche, Alder Creek in the Bryant Creek

Response: There is no alternative proposing to make roads and trails closed unless posted as open. The Forest is not sure where this information came from.

MONITORING

Comment 69: The DFP contains a section outline the Beaverhead-Deerlodge's commitment to monitoring. We strongly support you in this effort.

Response: Thank you for your comment.

INFRASTRUCTURE

Comment 70-: Transportation system, page 41, DFP - The first objective for Transportation System says "Identify the minimum necessary transportation system". Does this mean, for example, the Boulder River Landscape would require a distinct reduction in the road system since many motorized routes parallel each other or multiple routes come to the same place.

Response: This would mean that during site-specific travel management decision, roads not needed should be identified and removed from the Forest's system of roads. In areas like the Boulder River Landscape there is a high likelihood of motorized road and trail reductions.

ROADLESS AREAS

Comment 71: Roadless lands have enormous ecological value. Many resources, including vegetation, wildlife, aquatics, forest health, air quality, and water quality benefit from the maintenance of roadless lands. The Forest Plan should preserve roadless areas where possible and work to restore roadless qualities in some locales. Alternative 3's emphasis on roadless lands would benefit a wide variety of flora and fauna.

Response: The Forest recognizes Montana FWP's desire to preserve the roadless character of most roadless areas. There have been many comments recommending a variety uses for roadless areas. The alternatives developed allocate roadless areas for a variety of uses. Alternative 6 was developed to address many of the issues you identified in this comment.

Comment 72: Stoney Mtn & Quigg Peak - The Stoney Mountain and Quigg Peak roadless areas should be maintained as non-motorized areas. These areas provide key year-round habitat for bighorn sheep, mule deer and elk.

Response: In most alternatives, including Alternative 6, most of Stoney Mountain and Quigg Peak roadless areas are allocated as non-motorized.

Comment 73: Electric Peak - The Electric Peak roadless area should be retained because of important fish and wildlife values.

Response: Electric Peak roadless area allocations in most alternative, including Alternative 6, would retain the roadless character of the area.

Comment 74: Grazing and the Pintlers, page 67, Vol. 2, DEIS, Area A1-001, #48 (Pintler Creek). Grazing should not occur inside the Anaconda-Pintler Wilderness. Pintler meadows, which lies two miles inside the AP boundary, is currently being grazed.

Response: Grazing is allowed in wildernesses according the Wilderness Act. Pintler Meadows is in an active grazing allotment.

Whitetail-pipestone is being analyzed separately for travel management. The FEIS preferred alternative establishes a summer motorized road density objective of 1.9 mi/sq mi at the Boulder River landscape scale. This is less than the existing condition. Approximately 34 miles of currently open motorized roads and trails would be closed under the preferred alternative. Elk are displaced across the forest onto lands that are not subject to hunting pressure.

BIG HOLE LANDSCAPE

Comment 82: Anaconda Pintler Wilderness Additions Niche - Lands recommended for addition to this Wilderness appear to include a small portion of an established snowmobile trail (#6 "Storm Lake" as listed in "Snowmobile Routes (map), Pinter/Jefferson/Butte RD's,2004 revision) and the destination (purpose) for this trail i.e: Storm Lake. While there may be good reasons for proposing to include these areas, FWP would like to discuss with you issues of wilderness trespass and alternate trail routes related to maintaining snowmobile opportunities.

Response: The preferred alternative, Alternative 6, does not close winter motorized access into Storm Lake. The winter non-motorized allocation closes the area from Storm Lake up to Storm Lake Pass.

BOULDER RIVER LANDSCAPE

Comment 83: Electric Peak Recommended Wilderness Additions Niche - [please add "additions" to Niche title]. Lands recommended for addition to this Wilderness appear to include an approximately 6 mile portion of an established snowmobile trail (#3 "Cottonwood Lake Loop as listed in "Snowmobile Routes (map), Pinter/Jefferson/Butte RD's, 2004 revision) and [possibly] an approximately 3.5 mile portion of an established snowmobile trail (#2 "Leadville Loop" as listed in "Snowmobile Routes (map), Pinter/Jefferson/Butte RD's, 2004 revision). This objective needs more public involvement and should include identified alternative routes. While there are good reasons for proposing to include these areas in the wilderness, FWP would like to discuss wilderness trespass issues and alternative routes for this snowmobile system.

Response: Alternative 6 does not recommend Electric Peak for wilderness, partly due to many comments received about this groomed and marked snowmobile trail. The trail will remain open. For clarification, we used the term "addition" to indicate the management area is adjacent to a designated wilderness. The adjacent Blackfoot Meadows area on the Helena is a recommended wilderness. It has not been designated by Congress so we did not call Electric Peak an "addition".

UPPER ROCK CREEK LANDSCAPE

Comment 84: General - The various Niches in this Landscape are either listed as unsuitable for timber production or timber harvest is prohibited. We support this approach because of the outstanding fish, wildlife and recreational resources of this area. Will the Forest Service continue to honor the Rock Creek moratorium? Upper Rock Creeks' value for wildlife, fisheries and recreation should be paramount in its management. The low road densities and high proportion of old growth that characterize this area should be maintained. Recreation, wildlife, fisheries and watershed health are the appropriate areas of emphasis in the Rock Creek watershed.

Appendix B. Montana Mammalian Species of Concern – 30 Species Updated 2/01/20

Scientific Name	Common Name
Antrozous pallidus	Pallid Bat
Blarina brevicauda	Northern short-tailed shrew
Bos Bison	Bison
Brachylagus idahoensis	Pygmy rabbit
Canis lupus	Gray wolf
Chaetodipus hispidus	Hispid pocket mouse
Corynorhinus townsendii	Townsend's big-eared bat
Cynomys leucurus	White-tailed prairie dog
Cynomys ludocicianus	Black-tailed prairie dog
Euderma maculatum	Spotted bat
Gulo gulo	Wolverine
Lasiurus borealis	Eastern red bat
Lasiurus cinereus	Hoary bat
Lepus californicus	Black-tailed jackrabbit
Lynx canadensis	Canada lynx
Martes pennanti	Fisher
Mustela nigripes	Black-footed ferret
Myotis septentrionalis	Norther myotis
Myotis thysanodes	Fringed myotis
Perognathus parvus	Great Basin pocketmouse
Sorex arcticus	Arctic shrew

Scientific Name	Common Name
Sorex merriami	Merriam's shrew
Sorex nanus	Dwarf shrew
Sorex preblei	Preble's shrew
Spilogale gracilis	Western spotted sjunk
Synaptomys borealis	Northern bog lemming
Tamias umbrinus	Uinta chipmunk
Ursus arctos	Grizzly bear
Vulpes velox	Swift fox
Zapus hudsonius	Meadow jumping mouse

Appendix C. Northern Region Sensitive Species List

USFS Region 1 Sensitive Species List - Wildlife (FINAL) 2007
Page 3 of 4

Species	States Where Sensitive (a)				Forests Where Species is Known (K) or Suspected (S) to Occur (b)												Comments
	MT	ID	ND	SD	B/D	BRT	CLW	CUS	DPG	FLAT	GAL	HEL	IPNF	KOOT	L&C	LOLO	NEZ	
Pygmy Rabbit *(Brachylagus idahoensis)*	X				K													S3 in MT and ID, MT needs to revisit rank, and not on FS R1 in ID
Spotted Bat *(Euderma maculatum)*	X				K			K										S1 in MT and S2 in ID, but not on FS R1 in ID
Towsend's Big-Eared Bat *(Corynorhinus townsendii)*	X	X		X	K	K	S	K		K	K	K	K	K	K	K	S	S2 & S3 in MT and SD and S2 in ID
White-tailed Prairie Dog *(Cynomys leucurus)*	X							K										S1 in MT
AMPHIBIANS																		
Coeur d'Alene Salamander *(Plethodon idahoensis)*	X	X				K	K						K	K		K	K	S2 in MT and S3 in ID. Need to recheck the rank for ID.
Great Plains Toad *(Bufo cognatus)*	X							S										S3 in MT. Extensive surveys on the Custer did not produce observations. Probable reduction in occurance/range. Should review rank.
Northern Leopard Frog *(Rana pipiens)*	X				S	S		K		S	K	K		K	K	S		S1 in western and S3 in eastern MT. Not a spp of concern for ND; S3 in ID.
Plains Spadefoot *(Spea bombifrons)*	X							S				S						S3 in MT. Is a very rare spp and intense surveys on the Custer did not produce observations. Probable reduction in occurance/range. Should review rank.
Western Toad *(Bufo boreas)*	X	X			K	K	K	K		K	K	K	K	K	K	K	K	S2 in MT and S4 in ID, but both indicate that the rank may be incorrect, loss of breeding sites is ongoing.
REPTILES																		
Greater Short-horned Lizard *(Phrynosoma hernandesi)*	X							K							K			S3 in MT; reduction in range likely since the 50's and the 70's. Probably should be an S1 or S2
Milk Snake *(Lampropeltis triangulum)*	X							K										S2 in MT, but some indications that it may be more common with no evidence of range reduction.

USFS Region 1 Sensitive Species List - Wildlife (FINAL) 2007
Page 4 of 4

Species	States Where Sensitive (a)				Forests Where Species is Known (K) or Suspected (S) to Occur (b)												Comments
	MT	ID	ND	SD	B/D	BRT	CLW	CUS	DPG	FLAT	GAL	HEL	IPNF	KOOT	L&C	LOLO	NEZ	
Ringneck Snake *(Diadophis Punctatus)*		X					S										S	S1, probably limited occurance on USFS lands in Hells Canyon.
Western Hognose Snake *(Heterodon nasicus)*	X							K										S3 in MT; reduction in range possible/likely.
INSECTS																		
Arogos Skipper *(Atrytone arogos iowa)*			X						K									Rank for ND needs to be reviewed.
Broad-winged Skipper *(Poanes viator)*			X						K									S2 for ND and SD, not a concern for FS lands in SD.
Dakota Skipper *(Hesperia dacotae)*			X	X					K									S2 in ND and SD.
Dion Skipper *(Euphyes dion)*			X						K									S1 in ND
Mulberry Wing *(poanes massasoit)*			X						K									S2 in ND and S1 in SD, but not a concern for FS lands in SD.
Ottoe Skipper *(Hesperia ottoe)*			X	X					K									S2 in SD, but SD indicates limited concern. Need ND to revist rank.
Powesheik Skipper *(Oarisma powesheik)*			X	X					K									S2 in SD; need ND to revist their rank.
Regal Fritillary *(Speyeria idalia)*			X						K									Listed as S2 for ND and S3 for SD
Tawny Crescent *(Phyciodes batesii)*			X						K									Listed as an S2 for SD and S3 for ND.

(a) Species are listed as Sensitive by State. The State where a species is listed as Sensitive is indicated by an "X" in the State/species column. A species identified as Sensitive within a State, will be considered as Sensitive on all Units within the State where it occurs, unless described otherwise.

(b) National Forest (Grasslands) where a species is known or suspected to occur, within States where a species is listed as Sensitive, are identified by shading and either a known "K" or suspected "S" in the Forest/species column

Appendix D. Gravelly Landscape Sheep Grazing MOU

FS Agreement # 08-MU-11010206-013

MEMORANDUM OF UNDERSTANDING

Between the

USDA, FOREST SERVICE, BEAVERHEAD-DEERLODGE NATIONAL FOREST

USDI, BUREAU OF LAND MANAGEMENT,

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS,

HELLE LIVESTOCK

And the

REBISH AND KONEN A MONTANA LIVESTOCK

LIMITED PARTNERSHIP This Memorandum of Understanding (MOU) is hereby made and entered into by and between Helle Livestock and Rebish and Konen Partnership, hereinafter referred to as Grazing Permitees; the Bureau of Land Management (BLM), Montana Department of Fish, Wildlife and Parks (FWP), and the United States Department of Agriculture Forest Service, Beaverhead-Deerlodge National Forest (FS), hereinafter referred to as the Agencies.

I. INTRODUCTION:

The Agencies propose to reintroduce Bighorn Sheep into the Greenhorn Mountain Range. FWP has outlined procedures for reintroduction and dealing with Bighorn Sheep that leave this area in their Environmental Assessme

The Grazing Permitees are permitted to trail and graze sheep on public land in the Snowcrest and Gravelly Mountain ranges. Domestic sheep are trailed across agency-administered property to grazing allotments on National Forest System lands.

II. PURPOSE:

The purpose of this MOU is to address concerns raised by the Grazing Permitees. Because disease transmission and interbreeding are potential conflicts between Bighorn Sheep and domestic sheep, Grazing Permitees are concerned that their permits will be adjusted or their operations disrupted due to Bighorn Sheep reintroduction.

III. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

Bighorn Sheep are native to Montana and the Greenhorn Mountains. Reintroduction of Bighorn Sheep in the Greenhorn Mountains will provide wildlife viewing, hunting and associated economic benefit. Providing recreation opportunity, wildlife diversity and managing for ecological health are mutual benefits and interests of the FWP and FS. Rebish, Helle and Konen families recognize the value of Bighorn Sheep and can accept reintroduction as long as the sheep are managed by the terms of this MOU.

IV. THE AGENCIES (FWP, BLM, and FS) SHALL AGREE TO THE FOLLOWING STIPULATIONS:

A. Reintroduction of Bighorn Sheep will not cause the Agencies to adjust the operation or management of the Grazing Permitees' domestic sheep grazing operations without the Grazing Permitees consent. The Agencies agree that this includes the trailing corridor and grazing allotments.

B. Reintroduction of Bighorn Sheep will not preclude consideration of domestic sheep grazing on other allotments in the Gravelly or Snowcrest Mountain ranges. Any proposal to change class of livestock on a grazing allotment will have to be analyzed under the National Environmental Policy Act regulations.

C. In an attempt to prevent contact between Bighorn Sheep and domestic sheep, FWP will issue the Grazing Permitees a kill permit for Bighorn Sheep.

V. THE GRAZING PERMITTEES SHALL:

A. Agree to the following stipulations for the kill permit:

1. Bighorn Sheep contacting domestic sheep may be killed by the Grazing Permitees or their herders on federally managed Gravelly Mountain domestic sheep allotments and/or on the Grazing Permitees' private and leased land.

2. Bighorn Sheep close to domestic sheep within the federally managed Gravelly Mountain domestic sheep allotments, or on Grazing Permittees' private and leased lands where potential for contact is imminent, may be killed by the Grazing Permitees or their herders.

3. When Bighorn Sheep are greater than ½ mile from domestic sheep or the federally managed Gravelly Mountain domestic sheep allotment or Grazing Permitees' private and leased lands, Grazing Permitees or their herders will make every effort to contact FWP personnel to address the situation before killing Bighorn Sheep. The Grazing Permitees will be provided a satellite telephone by FWP for this purpose.

4. Grazing Permitees or their herders will inform FWP within 24 hours of killing a Bighorn Sheep or as soon as practical thereafter; considering access and logistical limitations.

5. To prevent spoilage, the carcass of Bighorn Sheep killed on permitted allotments will be field-dressed and preserved in as practical a manner as the circumstances will allow.

6. The carcass including the head and horns will be left intact for collection by FWP.
7. The person who killed a Bighorn Sheep is required to escort a FWP representative to the location of the kill site.

Kill permits will be valid on the federally managed Gravelly Mountain grazing allotment or on the Grazing Permittees private or leased land whenever domestic sheep are present on those lands. The kill permit will be renewed annually.**VI. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:**

A. PRINCIPAL CONTACTS. The principal contacts for this MOU are:

Forest Service Contacts

Mark A. Petroni and Jay Frederick

Address: 5 Forest Service Road
Ennis, Montana 59729
Phone: (406) 682-4253
FAX : (406) 682-4233
E-Mail: mpetroni@fs.fed.us

FWP Contacts

Curt Alt and Bob Brannon

Address: 1400 South 19th
Bozeman, Montana 59718
Phone: (406) 994-4042
FAX: (406) 994-4090
E-Mail jpeterson@montana.edu

BLM Contact

Jim Roscoe
Address: 1005 Selway Drive
Dillon, Montana 59725
Phone: (406) 683-2337
FAX: (406) 683-2970
E-Mail: jroscoe@mt.blm.gov

Helle Livestock Contacts

John and Tom Helle
Address: 1100 Stone Creek Road
Dillon, Montana 59725
Phone: (406) 683-6686
FAX: (406) 683-6686

Rebish and Konen Contact

Jon Konen
Address: 200 Airport Road
Dillon, Montana 59725
Phone: (406) 683-6236

B. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the Forest Service under this MOU is subject to the Freedom of Information Act (5 U.S.C. 552).

C. NON-FUND OBLIGATING DOCUMENT. This MOU is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this MOU will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Specifically, this MOU does not establish authority for noncompetitive award to the Grazing Permittees of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

D. PARTICIPATION IN SIMILAR ACTIVITIES. This MOU in no way restricts neither the Agencies nor the Grazing Permitees from participating in similar activities with other public or private agencies, organizations, and individuals.

E. RESPONSIBILITIES OF PARTIES. The Agencies and Grazing Permitees and their respective agencies and office will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.

F. ESTABLISHMENT OF RESPONSIBILITY**.** This MOU is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, its agencies, its officers, or any person.

G. ALTERNATE DISPUTE RESOLUTION. In the event of any issue of controversy under this Agreement, the parties may pursue Alternate Dispute Resolution procedures to voluntarily resolve those issues. These procedures may include, but are not limited to, conciliation, facilitation, mediation, and fact finding.

H. MODIFICATION. Modifications within the scope of the MOU shall be made by mutual consent of the parties, by the issuance of a written modification, signed and dated by all parties, prior to any changes being performed.

I. TERMINATION. Any of the parties, in writing, may terminate the instrument in whole, or in part, at any time before the date of expiration.

J. COMMENCEMENT/EXPIRATION DATE. This MOU shall commence upon execution by all parties hereto and shall be effective as of the last date written below. This instrument expires on **January 31, 2018** unless otherwise extended by a bilaterally executed modification. Either party to this instrument may terminate it by providing written notice to the other party.

K. REVIEW. The party's shall review this MOU once every three years to assess its adequacy, effectiveness, and continuing need.

L. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document, as representatives of the party, are authorized to act in their respective areas for matters related to this instrument.

The authority and format of this MOU have been reviewed and approved for signature.

/s/ *Teresa Asleson* *1/22/2008*

TERESA ASLESON Date

FS Agreements Specialist

IN WITNESS WHEREOF, the parties hereto have executed this MOU as of the last written date below.

JOHN HELLE Date

Helle Livestock

JON KONEN Date

Rebish and Konen Partnership

TIM BOZORTH, Area Manager Date

USDI Bureau of Land Management

Dillon Resource Area

PAT FLOWERS, Regional Supervisor Date

Montana Department of Fish, Wildlife and Parks BRUCE RAMSEY, Forest Supervisor
Date

USDA Forest Service, Beaverhead-Deerlodge National Forest

Appendix E. Idaho Species of Greatest Conservation Need in the Beaverhead Mountains (Idaho Department of Fish and Game 2005)

A Grasshopper *Argiacris militaris*
A Grasshopper *Barracris petraea*[a]
A Spring Stonefly *Malenka tina*
A Tiger Beetle *Cicindela plutonica*
An Agapetus Caddisfly *Agapetus montanus*[a]
Relict Fritillary *Boloria kriemhild*
Gillette's Checkerspot *Euphydryas gillettii*

[a] Species for which the Beaverhead Mountains represents a significant portion of their Idaho range.

Appendix F: Forest Service R4 TES Species List

INTERMOUNTAIN REGION (R4) PROPOSED, ENDANGERED, THREATENED, AND SENSITIVE SPECIES

(8/2009)

KNOWN / SUSPECTED DISTRIBUTION BY FOREST

STATUS	FOREST

ENDANGERED	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
MAMMALS																
Black-footed ferret 3/11/67 *Mustela nigripes*			o													o
BIRDS																
Southwestern willow flycatcher 2/27/95 *Empidonax trailli extimus* ED 3/29/95						X	X		X					?		
Whooping crane 3/11/67 *Grus americana*			X										X		o	o
FISH																
June sucker 3/31/86 *Chasmistes liorus*															o	o
Bonytail chub 4/23/80 *Gila elegans*	o		o			o	o		o						o	o
Humpback chub 3/11/67 *Gila cypha*	o		o			o	o		o						o	o
Colorado squawfish 3/11/67 *Ptychocheilus lucius*	o		o			o	o		o						o	o

Kendall Warm Springs dace 10/13/70 *Rhinichthys osculus*			X													
Sockeye salmon, Snake River 11/20/91 *Oncorhynchus nerka* (ED 12/20/91)					+					+	+	X				
Razorback sucker 10/23/91 *Xyrauchen texanus* (ED 11/22/91)	o		o			o	o		o						o	o
Sturgeon, pallid *Scaphirhynchus albus*			o													
PLANTS																
San Rafael cactus *Pediocactus despainii*							X									
Clay phacelia 09/28/78 *Phacelia argillacea*									?						X	
THREATENED	**ASH**	**BOI**	**B-T**	**CAR**	**CHA**	**DIX**	**FIS**	**HUM**	**M-L**	**PAY**	**SAL**	**SAW**	**TAR**	**TOI**	**UIN**	**W-C**
MAMMALS																
Gray wolf (10j Experimental Population) *Canis lupus*			X													
North American lynx 4/15/00 *Lynx canadensis*	X	X	X	X	X					X	X	X	X		?	?
Utah prairie dog 6/04/73 *Cynomys parvidens*						X	X									

Northern Idaho ground squirrel 3/24/00 *Spermophilus brunneus*										X						
BIRDS																
Mexican spotted owl 3/16/93 *Strix occidentalis lucida (ED 4/15/93)*						X	X		X							
REPTILES AND AMPHIBIANS																
Desert tortoise 8/04/89 *Gopherus agassizii*						?								X		
FISH																
Steelhead trout (Snake River summer) *Oncorhynchus mykiss*		X			X					X	X	X				
Chinook salmon, Snake River sprg/smr *Oncorhynchus tshawytscha 4/22/92* (ED 5/22/92)		X			X					X	X	X				
Chinook salmon, Snake River fall *Oncorhynchus tshawytscha 4/22/92* (ED 5/22/92)										X						
Railroad Valley springfish 3/31/86 *Crenichthys nevadae*														X		
Lahontan cutthroat trout 10/13/70								X						X		

Oncorhynchus clarki henshawi																
Bull trout (PT) *Salvelinus confluentus*		X			X			X		X	X	X				
Paiute cutthroat trout 3/11/67 *Oncorhynchus clarki seleniris*														X		
PLANTS																
Deseret milkvetch 10/20/99 *Astragalus desereticus*									?						?	
Heliotrope milkvetch 11/6/87 *Astragalus montii*									X							
Maguire daisy *Erigeron maguirei*							X									
MacFarlane's four-o'clock 10/26/79 *Mirabilis macfarlanei*										?						
Winkler cactus *Pediocactus winkleri*									?							
Maguire's primrose 8/21/85 *Primula maguirei*																X
Last chance townsendia 8/21/85 *Townsendia aprica*						X	X									

Ute ladies' tresses orchid 1/17/92 *Spiranthes diluvialis* (2/18/92)		?		?	?		?				?	?	X		X	?
Spalding's catchfly 10/10/01 *Silene spaldingii*										?						
PROPOSED	**ASH**	**BOI**	**B-T**	**CAR**	**CHA**	**DIX**	**FIS**	**HUM**	**M-L**	**PAY**	**SAL**	**SAW**	**TAR**	**TOI**	**UIN**	**W-C**
WILDLIFE & PLANTS																
Mountain plover *Charadrius montanus*	X		X	X												
Slick-spot peppergrass 9/19/08 *Lepedium papilliferum*		?														

SENSITIVE	**ASH**	**BOI**	**B-T**	**CAR**	**CHA**	**DIX**	**FIS**	**HUM**	**M-L**	**PAY**	**SAL**	**SAW**	**TAR**	**TOI**	**UIN**	**W-C**
MAMMALS																
Grizzly bear 4/07 *Ursus arctos horribilis*			X										X			
Bighorn Sheep (*Ovis canadensis*) - Includes Rocky Mountain bighorn sheep (*O. c. canadensis*), California bighorn sheep (*O. c. californiana*), and desert bighorn sheep (*O. c. nelsoni*) 7/29/2009	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Gray wolf *Canis lupus*		X		X	X					X	X	X	X			
Pygmy rabbit				X	X	X	X	X			X			X		

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Brachylagus idahoensis																
Spotted bat *Euderma maculatum*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
North American wolverine *Gulo gulo (luscus)*	X	X	X	X	X					X	X	X	X	X		X
Fisher *Martes pennanti*		X	X		X					X	X	X	X	X	X	
Western big-eared bat *Corynorhinus townsendii pallescens*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
BIRDS																
Bald eagle *Haliaeetus leucocephalus*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Boreal owl *Aegolius funereus*	X	X	X	X	X					X	X	X	X			X
Greater sage-grouse *Centrocercus urophasianus*	X	X	X	X	X	?	X	X	X	?	X	X	?	X	X	X
Trumpeter swan *Cygnus buccinator*			X	X									X			
Peregrine falcon 3/20/84 *Falco peregrinus anatum*	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Common loon *Gavia immer*		?	X							?		X	?			
Harlequin duck *Histrionicus histrionicus*			X	X	X					X	X		X			
Mountain quail *Oerortyx pictus*		X						X		X				X		
Flammulated owl *Otus flammeoulus*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
White-headed woodpecker *Picoides alborlarvatus*		X								X				X		
Three-toed woodpecker *Picoides tridactylus*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Great gray owl *Strix nebulosa*	X	X	X	X	X			?		X	X	X	X	X		X
California spotted owl *Strix occidentalis occidentalis*														X		
Columbian sharp-tailed grouse *Tympanuchus phasianellus columbianus*				X						X		X				X
Northern goshawk *Accipiter gentilis*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
REPTILES AND AMPHIBIANS																
Columbia spotted frog *Rana luteiuentris*	?	X	X	X	X			X	X	X	X	X	X	X	X	X
FISH																
Wood River sculpin *Cottus leiopomus*												X				
Westslope cutthroat trout *Oncorhynchus clarki lewisi*		X			X					X	X	X				
Colorado River cutthroat trout *Oncorhynchus clarki pleuriticus*	X		X			X			X						X	X
Bonneville cutthroat trout *Oncorhynchus clarki utah*			X	X		X	X	X	?						X	X

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Snake River fine spotted cutthroat troutt *Oncorhynnchus clarki* ssp.			X	X									X			
INSECTS																
Mt. Charleston Blue Butterfly *Icarcia shasta charlestonensis*														X		
Spring Mountain Checkerspot *Chlosyne acastus robusta*														X		
Dark Blue *Euphilotes ancilla purpura*														X		
Morand's Checkerspot (*Euphydryas anicia morandi*														X		
PLANTS																
Pink agoseris *Agoseris lackschewitzii*			X								X		X			
Chatterley Onion *Allium geyeri chatterleyi*									X							
Swamp onion *Allium madidum*										X						
Tolmie's onion *Allium tolmiei* var. *persimile*		X								X						
Candystick *Allotopa virgata*										X						
Sweet-flowered rock jasmine *Androsace chamaejasme ssp. carinata*			X						X				X			
Charleston angelica *Angelica scabrida*														X		

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Meadow pussytoes *Antennaria arcuata*								X								
Charleston pussytoes *Antennaria soliceps*														X		
Link Trail columbine *Aquilegia flavescens var. rubicunda*									X							
Graham columbine *Aquilegia grahamii*	X															
Bodie Hills rockcress *Arabis bodiensis*														X		
Grouse Creek rockcress Arabis falcatoria								X								
Ophir rockress *Arabis ophira*														X		
Galena Creek rockcress *Arabis rigidissima* var. *demota*														X		
White bear desert-poppy *Arctomecon merriamii*														X		
Rosy King's sandwort *Arenaria kingii* ssp.*rosea*														X		
Petiolate wormwood *Artemisia campestris petiolata*	X															
Eastwood milkweed														X		

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Asclepias eastwoodiana																
Barneby woody aster *Aster kingii* var. *barnebyana*							X								X	
Soft aster *Aster mollis*			X													
Clokey milkvetch *Astragalus aequalis*														X		
Lost River milkvetch *Astragalus amnis-amissi*					X											
Goose Creek milkvetch *Astragalus anserinus*												?				
Lemhi milkvetch *Astragalus aquilonius*					X											
Bicknell milkvetch *Astragalus consobrinus*							X		?							
Meadow milkvetch *Astragalus diversifolius var. diversifolius*			X		X								X			
Funeral milkvetch *Astragalus funereus*														X		
Dana milkvetch *Astragalus henrimontanensis*						X										
Starvling milkvetch *Astragalus jejunus var. jejunus*			X	X												X
Scorpion milkvetch *Astragalus lentiginosus var.*								X						X		

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
scorpionis																
Navajo Lake milkvetch *Astragalus limnocharis* var. *limnocharis*						X										
Table Cliff milkvetch *Astragalus limnocharis* var. *tabulaeus*						X										
Half-ring pod milkvetch *Astragalus mohavensis* var. *hemigyrus*														X		
Lee Canyon milkvetch *Astragalus oophorus* var. *clokeyanus*														X		
Lavin's egg milkvetch *Astragalus oophorus* var. *lavinii*														X		
Payson's milkvetch *Astragalus paysonii*			X							X			?			
Spring Mountain milvetch *Astragalus remotus*														X		
Lamoille Canyon milkvetch *Astragalus robbinsii* var. *occidentalis*								X								
Toquima milkvetch *Astragalus toquimanus*														X		
Currant milkvetch *Astragalus uncialis*								?								

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
White Cloud milkvetch *Astragalus vexilliflexus* var. *nubilus*					X					X		X				
Osgood Mountains milkvetch *Astragalus yoder-williamsii*								?								
Guard milkvetch *Astragalus zionis vigulus*						X										
Upswept moonwort *Botrychium ascendens*														X		
Dainty moonwort *Botrychium crenulatum*	X													X	X	
Paradox moonwort *Botrychium paradoxum*						X										
Slender moonwort *Botrychium lineare*	X							?		?		X		X	?	X
Beautiful Bryum *Bryum calobryoides*		X														
Cascade reedgrass *Calamagrostis tweedyi*										X						
Cusick camas *Camassia cusickii*										X						
Seaside sedge *Carex incurviformis*			X		X									X		
Black and purple sedge *Carex luzulina var. atropurpurea*			X													

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Aquarius paintbrush *Castilleja aquariensis*						X										
Christ's Indian paintbrush *Castilleja christii*												X				
Tushar paintbrush *Castilleja parvula* var. *parvula*						X	X									
Reveal paintbrush *Castilleja parvula* var. *revealii*						X										
Centennial rabbitbrush *Chrysothamnus parryi* ssp. *montanus*													X			
Flexible alpine collomia *Collomia debilis var. camporum*											X					
Mound cryptanth *Cryptantha compacta*								?								
Creutzfeldt-flower cryptanth *Cryptantha creutzfeldtii*									X							
Yellow-white catseye *Cryptantha ochroleuca*						X										
Mohave cryptantha *Cryptantha tumulosa*														X		
Bodie Hills draba *Cusickiella quadricosta*														X		
Pinnate spring-parsley *Cymopterus*						X			X							

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
beckii																
Davis' wavewing *Cymopterus davisii*												X				
Douglas' biscuitroot *Cymopterus douglasii*					X						X	X				
Goodrich biscuitroot *Cymopterus goodrichii*														X		
Cedar Breaks biscuitroot *Cymopterus minimus*						X										
Snowy spring parsley *Cymopterus nivalis*								X						X		
Brownie ladyslipper *Cypripedium fasciculatum*	X															X
Wyoming tansymustard *Descurainia torulosa*			X													
Idaho douglasia *Douglasia idahoensis*		X								?						
Arid draba *Draba arida*														X		
Star draba *Draba asterophora* var. *asterophora*														X		
Rockcress draba *Draba globosa [=D. densifolia var. apiculata]*	X		X		X										X	X
Jaeger draba *Draba jaegeri*														X		
Maguire draba																X

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Draba maguirei																
Serpentine draba *Draba oreibata* var. *serpentina*								?						X		
Charleston draba *Draba paucifructa*														X		
Pennell draba *Draba pennellii*								X								
Creeping draba *Draba sobolifera*						X	X									
Stanley's whitlow-grass *Draba trichocarpa*					X							X				
Nevada willowherb *Epilobium nevadense*							X							X		
Abajo daisy *Erigeron abajoensis*									X							
Carrington daisy *Erigeron carringtonae*									X							
Snake Mountain erigeron *Erigeron cavernensis*								X								
Cronquist daisy *Erigeron cronquistii*																X
Kachina daisy *Erigeron kachinensis*									X							
Wolly daisy *Erigeron lanatus*			X													
LaSal daisy *Erigeron mancus*									X							
Untermann daisy *Erigeron untermannii*	X															
Mono buckwheat														X		

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Eriogonum ampullaceum																
Widtsoe buckwheat *Eriogonum aretioides*						X										
Elsinore buckwheat *Eriogonum batemanii* var. *ostlundii*							X									
Desert buckwheat *Eriogonum brevicaule var. desertorum*												X				
Logan buckwheat *Eriogonum brevicaule* var*. loganum*																X
Welsh buckwheat *Eriogonum capistratum var. welshii*					X											
Toiyabe buckwheat *Eriogonum esmeraldense var. toiyabense*														X		
Clokey buckwheat *Eriogonum heermannii var. clokeyi*														X		
Holmgren buckwheat *Eriogonum holmgrenii*								X								
Lewis's buckwheat *Eriogonum lewisii*								X								
Guardian buckwheat *Eriogonum meledonum*					X							X				

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Barrel cactus *Ferocactus cylindraceus var. lecontei*														X		
Clokey greasebush *Forsellesia clokeyi*														X		
Smooth dwarf greasebrush *Forsellesia pungens var. glabra*														X		
Wonderland Alice flower *Gilia caespitosa*						X	X									
Puzzling halimolobos *Halimolobos perplexa* var. *perplexa*										X						
Alpine goldenweed *Haplopappus alpinus*														X		
Spring Mountain goldenweed *Haplopappus compactus*														X		
Pine Valley goldenweed *Haplopappus crispus*						X										
Bugleg goldenweed *Haplopappus insecticruris*		X										X				
Narrow-leaf goldenweed *Haplopappus macronema var.linearis*			X													
Radiate goldenweed *Haplopappus radiatus*										X						

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Canyon sweetvetch *Hedysarum occidentale* var. *canone*									X							
Jones goldenaster *Heterotheca jonesii*						X										
Sierra Valley ivesia *Ivesia aperta* var. *aperta*														X		
Dog Valley ivesia *Ivesia aperta* var. *canina*														X		
Charleston ivesia *Ivesia cryptocaulis*														X		
Jaeger ivesia *Ivesia jaegeri*														X		
Plumas ivesia *Ivesia sericoleuca*														?		
Webber ivesia *Ivesia webberi*														X		
Wasatch jamesia *Jamesia americana var. macrocalyx*															X	X
Zion jamesia *Jamesia americana var. zionis*						X										
Basin jamesia *Jamesia tetrapetala*								X								
Grimes lathyrus *Lathyrus grimesii*								X								
Neeses' peppergrass *Lepedium montanum* var. *neeseae*						X										

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Hazel's prickly phlox *Leptodactylon pungens* ssp. *hazeliae*										X						
Garrett bladderpod *Lesquerella garrettii*															X	X
Payson bladderpod *Lesquerella paysonii*			X	X									X			
Maguire lewisia *Lewisia maguirei*								X								
Canyonlands lomatium *Lomatium latilobum*									X							
Goodrich stickleaf *Mentzelia goodrichii*	X															
Bank monkeyflower *Mimulus clivicola*										X						
Fish Lake naiad *Najas caespitosa*							X									
Challis crazyweed *Oxytropis besseyi* var. *salmonensis*					X											
Arctic poppy *Papaver radicatum* var. *pygmaeum*	X															X
Naked-stemmed parrya *Parrya nudicaulis*			X													
Paria breadroot *Pediomelum pariense*						X										

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Stemless beardtongue *Penstemon acaulis* var. *acaulis*	X															
Dune penstemon *Penstemon arenarius*														?		
Bicolored beardtongue *Penstemon bicolor* var. *bicolor*														X		
Rose-colored beardtongue *Penstemon bicolor* var. *roseus*														X		
Red Canyon beardtongue *Penstemon bracteatus*						X										
Cache beardtongue *Penstemon compactus*				X												X
Elegant penstemon *Penstemon concinnus*								?								
Death Valley beardtongue *Penstemon fructiciformis* ssp. *amargosae*														X		
Idaho penstemon *Penstemon idahoensis*												X				
Lemhi penstemon *Penstemon lemhiensis*											X					
Mt. Moriah penstemon *Penstemon moriahensis*								X								

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Little penstemon *Penstemon parvus*						X	X									
Pinyon penstemon *Penstemon pinorum*						X										
Ward beardtongue *Penstemon wardii*							X									
Inconspicuous phacelia *Phacelia inconspicua*								?								
Small-flower phacelia *Phacelia minutissima*		X						X				?				
Mono phacelia *Phacelia monoensis*														X		
Salmon twin bladderpod *Physaria didymocarpa* var. *lyrata*											X					
Creeping twinpod *Physaria intergrifolia v. monticola*			X										X			
Marsh's bluegrass *Poa abbreviata ssp. marshii*					*X*			*X*			*X*	*X*		*X*		
Angell cinquefoil *Potentilla angelliae*						X										
Cottam cinquefoil *Potentilla cottamii*												X				X
Alkali primrose *Primula alcalina*													X			
Ruby Mountain								X								

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
primrose *Primula capillaris*																
Greenland primrose *Primula egaliksensis*			X													
Nevada primrose *Primula nevadensis*								X								
Bartons' blackberry *Rubus bartonianus*										X						
Williams combleaf *Polyctenium williamsii*														X[98]		
Arizona willow *Salix arizonica*						X	X		X							
Clokey Mountain sage *Salvia dorrii* var. *clokeyi*														X		
Weber's saussurea *Saussurea weberi*			X													
Tobias' saxifrage *Saxifraga bryophora* var. *tobiasiae*										X						
Tolmie's saxifrage *Saxifraga tolmiei* var. *ledifolia*										X						
Beaver Mountain groundsel *Senecio castoreus*							X									
Podunk groundsel *Senecio malmstenii*						X										
Musinea groundsel									X							

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Senecio musiniensis																
Clokey silene *Silene clokeyi*														X		
Nachlinger silene *Silene nachlingerae*								X								
Maguire campion *Silene petersonii*						X	?		X							
Jones' globemallow *Sphaeralcea caespitosa*								?								
Rock-tansy *Sphaeromeria capiata*						X										
Low sphaeromeria *Sphaeromeria compacta*														X		
Few-flowered streptanthus *Streptanthus oliganthus*														X		
Charleston kittentails *Synthyris ranunculina*														X		
Caespitose greenthread *Thelesperma caespitosa*	X															
Uinta green thread *Thelesperma pubescens*																X
Bicknell thelesperma *Thelesperma subnuda* var. *alpina*						X	X									
Wavy-leaf thelypody *Thelypodium repandum*					X											

SENSITIVE	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	UIN	W-C
Stanley thlaspi *Thlaspi aileeniae*					X							X				
Out-of-tune sticky tofieldia *Tofieldia glutinosa* var. *absona*										X						
Sevier townsendia *Townsendia jonesii* var. *lutea*							X									
Charleston ground daisy *Townsendia jonesii* var. *tumulosa*														X		
Currant Summit clover Trifolium *andinum var. podocephalum*								X								
Leiberg clover *Tifolium leibergii*								X								
Rollins clover *Trifolium macilentum var. rollinsii*														X		
Smith violet *Viola franksmithii*																X
Lithion violet *Viola lithion*								X								
Idaho range lichen *Xanthoparmelia idahoensis*											X					

ASH - Ashley
BOI - Boise
B-T - Bridger-Teton
CAR - Caribou
CHA - Challis
DIX - Dixie
FIS - Fishlake
HUM - Humboldt
M-L - Manti-LaSal
PAY - Payette
SAL - Salmon
SAW - Sawtooth
TAR - Targhee
TOI - Toiyabe
UIN - Uinta
W-C - Wasatch-Cache

KEY:	***This list was compiled from the following sources:***
X = known distribution species and/or habitat ? = suspected or potential habitat	

* = wild and naturally reproducing stocks + = migration corridors only o = offsite impacts (e.g. downstream) r = reintroduced Central Idaho & Yellowstone populations, covered under ESA Section 10(j), and declared experimental non-essential populations, and thus are treated like "proposed" species ## = no longer meet "sensitive"criteria (personal communication with Forest botanists and Dr. Duane Atwood), but no official list revision yet Dates are dates the Final Rule was published in the *Federal Register;* ED = Effective dates are about 30 days later if not listed.	*R-4 Vertebrate Sensitive Species List* (August 13, 1990) *R-4 Sensitive Plant List* (April 29, 1994) *Endangered and Threatened Wildlife and Plants,* USDA-U.S. Fish & Wildlife Service (August 20, 1994) *Northern Goshawk - Listed as a Sensitive Species in R4* (October 31, 1991) *Miscellaneous Federal Registers*

Appendix G: Forest Service R1 2003 – 2004 Sensitive Species Process.

Northern Region Forest Service

2004 Sensitive Species Update Process For Wildlife

September 8, 2004

The following outlines the 2003-04 review and update process for the wildlife portion of the March 1999 R1 Sensitive Species List.

I. BACKGROUND:

A task group of wildlife biologists developed and carried out the following Sensitive Species review process, with additional review by all Forest, Forest Plan Planning and some District Wildlife Biologists at selected times in the process. The task group included:

Name	*Unit*
Marion Cherry	**Forest Wildlife Biologist Gallatin NF**
Steve Blair	**Forest Wildlife Biologist Nez Perce NF**
Rachel Feigley	**District Wildlife Biologist Livingston RD**
John Ormiston	**Forest Wildlife Biologist Bitterroot NF**
Art Rohrbacher	**Forest Wildlife Biologist Beaverhead-Deerlodge NF**
Arden Warm	**District Wildlife Biologist Medora RD**
Tom Whitford	**Forest Wildlife Biologist Custer NF**
Tom Wittinger	**Regional TES Program Leader**

In addition, meetings were held that included the wildlife task group and representatives for rare plants, and fisheries. These meeting resulted in coordinated efforts and very similar review and update processes between the different species groups.

Thirty-seven wildlife species were listed as Sensitive on the 1999 R1 Sensitive Species list. The 1999 list was developed using a mathematical ranking process, with a minimum score required for inclusion on the list. Only species suggested by Forests, Regional personnel, State agencies, and some interested publics (usually academics) were considered for the list. Species considered were then ranked (ranks were estimates developed by a Forest Service Biologists task group) for population size, population distribution, population trend, level of habitat specialization, and level of threat to habitat. A minimum score of 15 was required for inclusion on the list, with population size; level of endemism, and level of habitat risk the elements that carried high numerical values. Although it also appears that some species were included on the list without going through the ranking process.

Documentation detailing a list of all species considered, the rationale for species that were included, and those not included on the list is lacking. The current list is an accumulation of a number of listing and review processes occurring from the late 1980s through 1999.

An alternative process is proposed for the 2004 update of the Sensitive Species list. The proposed process primarily relied upon State Natural Heritage ranking processes rather than ranking by Forest Service Biologists, and as a consequence of the State ranking process will continue to provide considerable weight based on population size, level of endemism, and level of habitat risk, but also increased the weight given to population trend and/or reduction in range. This process change resulted in greater similarity between wildlife, fish, and plants in processes used to compile the Sensitive Species List. Carrying out this process resulted in the following wildlife species results, and relative changes from the 1999 Sensitive Species list, see the following table.

The following table displays the number of wildlife species, by species group, included on the 1999 Sensitive Species List, the number of wildlife species reviewed for inclusion to the Sensitive Species List during the 2004 update process, the number of wildlife species proposed for inclusion to the 2004 updated Sensitive Species List, the number of species on the 1999 List that were not included on the updated List, and the number of wildlife species that were not included on the 1999 List but are proposed to be added to the updated list.

Species Group	99 List	Updated Starting Review List	Draft Proposed List	Dropped From The 99 List	Added To The 99 List	Changed Area From 99 List
Birds	**16**	**196**	**18**	**3**	**5**	**2**
Mammals	**11**	**75**	**16**	**3**	**6**	
Amphibians	**3**	**30**	**5**		**2**	**1**
Reptiles		**37**	**5**		**5**	
Cave Arachnids		**1**				
Cave Crustaceans		**6**				
Insects	**7**	**70**	**9**	**1**	**3**	**2**
Mollusks		**72**				
Total	**37**	**487**	**53**	**7**	**21**	**5**

II. SENSITIVE SPECIES DIRECTION:

The following displays Forest Service Manual (FSM) direction for development of Sensitive Species Lists.

FSM 2670.12 – Secretary of Agriculture's Policy on Fish and Wildlife.

2670.2 – Objectives.

2670.22 - Sensitive Species.

1. **Develop and implement management practices to ensure that species do not become threatened or endangered because of Forest Service actions.**
2. **Maintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitats distributed throughout their geographic range on National Forest System lands.**
3. **Develop and implement management objectives for populations and/or habitat**

FSM 2670.5-19 defines Sensitive Species as the following:

19. **Sensitive Species. Those plant and animal species identified by the Regional Forester for which population viability is a concern, as evidenced by:**

a) **Significant current or predicted downward trends in population numbers or density.**

b) **Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.**

FSM 2672.11 – Identification of Sensitive Species. Regional Foresters shall identify sensitive species occurring within the Region. They shall examine the following sources as possible candidates for listing as sensitive species:

1. **Fish and wildlife Service or National Marine Fisheries Service candidates for Federal listing (categories 1 and 2) under Federal Register Notice of Review.**
2. **State lists of endangered, threatened, rare, endemic, unique, or vanishing species, especially those listed as threatened under State law.**
3. **Other sources as appropriate in order to focus conservation management strategies and to avert the need for Federal or State listing as a result of National Forest management activities.**

III. OPERATIONAL ELEMENTS:

The following displays operational elements that were utilized in the implementation of identified FSM direction. First are listed general operating assumptions that were considered in development of more detailed operational "rules" described secondly.

Operating Assumptions:

- **The Sensitive Species process is a companion process with Forest Planning, with both designed to protect and provide for wildlife that reside on National Forests. Species needs were considered at the operationally most efficient population and habitat scale possible.**
- **Questions of species viability, related to population and/or habitat, were the primary consideration that determined Sensitive Species status. Forest Service management actions effect many species populations and/or habitats, but species were not considered for Sensitive Species status unless viability was a concern.**
- **A species was considered a candidate for Sensitive status at the Regional scale only when viability risk at the state or global scale was indicated, with the distribution of concern and accountability identified at the Forest scale.**
- **All species of "concern" identified through the described process were evaluated for Sensitive status, neither species nor groups of species that met initial "concern" criteria were eliminated without documentation.**
- **All decisions to eliminate or retain species on the Sensitive Species List were supported by process criteria, were documented in the evaluation process, or a specific rationale was provided.**

The Sensitive Species List provides management protections for species during LRMP and project development and implementation. The conclusion of this updating process may provide recommendations for species protections other than inclusion on the Sensitive Species List.

Operational Rules:

- **Source Lists:** ***The primary source of species considered for Sensitive Species status was the Natural Heritage Program (NHP). Species of Concern Lists for the States of Idaho (2003), Montana (2003), North Dakota (2003), and South Dakota (2003); with consideration for species identified by 1) Partners In Flight, 2) BLM Sensitive species lists, 3) USFWS "candidate spp list" and Migratory bird species of concern list, 4) Sensitive Species lists from adjacent FS Regions, 5) Suggested mollusk, reptile and amphibian spp from "local academic experts" that consult with NHPs, and 6) lists that were developed by the BIA, NPS, and Native American Tribes were utilized to compile a starting review list of wildlife species that may require Sensitive Species management considerations.***

Step 1 Conclusion Statement: **The result of this step in the process was multiple lists of wildlife species for which some concern for population reduction or viability was identified by the individual organizations.**

- **<u>Ranking Process:</u>** ***The NHP species ranking process was utilized as the primary tool to identify those species that require special and/or fine scale considerations in order to adequately provide for their continued viability. Species that met NHP criteria for G1-G3 or S1-S2 were considered candidates for the R1 Sensitive Species List. Species from all sources resulted in a starting review list of 487 wildlife species.***

  The following table outlines population and risk elements, and their levels/amounts, that result in State Rank values. The MT NHP developed the table, but it is assumed that similar processes are utilized by other State NHPs.

The following table reflects the ranking elements used in the development of State Ranks for Montana. It was assumed that other states use similar elements in the development of their state ranks.

	Score					
Criteria	***0***	***1***	***2***	***3***	***4***	***5***
Abundance	***Unknown***	***Very rare (<1000)***	***Rare to Uncommon (1001-3000)***	***Uncommon to Fairly common (3001-10,000)***	***Common Including locally Abundant (10,000-?)***	***Abundant (>?)***
Number of Occurrences	***Unknown***	***Very Small (<5)***	***Small (6-20)***	***Medium (21-100)***	***Large (100-?)***	***Very Large***
Effective Population		***Very Small***	***Small***	***Medium***	***Large***	

per Occurrence	*Unknown*	*(<5)*	*(6-20)*	*(21-100)*	*(100-?)*	*Very Large*
Distribution	*Unknown*	*Very Restricted (3% of MT)*	*Restricted (3-10% of MT)*	*Regional (11-50% of MT)*	*Widespread (50-70% of MT)*	*Very widespread (>70% of MT)*
Trend in Population	*Unknown*	*Rapid Decline (>50% in 20 yrs)*	*Decline (20% in 10 yrs)*	*Stable (natural fluctuation included)*	*Expansion*	*Rapid expansion*
Trend in Distribution	*Unknown*	*Rapid Contraction (>50% in 20 yrs)*	*Contraction (20% in 20 yrs)*	*Stable (natural fluctuations included)*	*Expansion*	*Rapid expansion*
Threats to Population	*Unknown*	*Extreme*	*High*	*Moderate*	*Limited*	*None*
Threats to Habitat	*Unknown*	*Extreme*	*High*	*Moderate*	*Limited*	*None*

Global ranks were also assigned to species by the NHP at the national level, with the following criteria used to assign and define Global Ranks:

- ***G1-Critically imperiled globally because of extreme rarity (typically less than 6 occurrences, less than 1,000 individuals or very few remaining acres) or because of some factor (s) making it especially vulnerable to extinction.***
- ***G2-Imperiled globally because of extreme rarity (typically 6-20 occurrences, 1,000-3,000 individuals or few remaining acres) or because of some factor (s) making it very vulnerable to extinction throughout its range.***
- ***G3-Rare or uncommon (typically 21-100 occurrences or 3,000-10,000 individuals) throughout its range, or found locally, even abundantly, in a restricted range (e.g., in a single state or physiographic region), or vulnerable to extinction throughout its range because of specific factors.***

- ***G4-Widespread, abundant and apparently secure globally, though it may be quite rare in parts of it's rang, especially at the periphery (typically 101+ occurrences & 10,000+ individuals); some cause for long-term concern exits.***
- ***G5-Demonstrably secure, widespread and abundant globally, although it may be quite rare in parts of its range, especially at the periphery.***

Sensitive Species list review considerations depended upon the processes utilized by the NHP to rank species, and in most instances utilized ranks developed by the NHPs. If in the view of the Forest Service Technical Group sufficient and credible data existed/exists that would result in a rank different from that identified by the NHP, then an altered species rank could be utilized in the Sensitive Species process.

❖ ***Step 2 Conclusion Statement:*** **The result of this step in the process was a starting review list of 487 wildlife species for which some concern for population reduction or viability was identified, within one or more of the States of ID, MT, SD, or ND, and State and Global NHP Ranks had been compiled for all (most) species.**

<u>Ownership and Species Distribution:</u>

Only species, and/or their habitats, that occur on NF lands were considered for inclusion onto the Sensitive Species List.

Only species that occur as breeding or winter season residents were considered for inclusion onto the Sensitive Species List.

Transient/migratory species were not considered for inclusion onto the Sensitive Species List.

Each Forest/Grassland was asked to review the starting review list and identify those species that were (1) Known to occur on the Unit (K), (2) Suspected to occur on the Unit (S), (3) Were migratory, did not breed or winter for extended periods of time on the Unit (T), (4) Were know to occur historically on the Unit, but not currently (HK), (5) Were suspected to occur historically on the Unit, but not currently (HS), and (6) Not known to occur, or to have occurred, on the Unit (blank or N).

The task group discussed species that could be affected from activities on FS lands, but that do not occur on FS lands. The example considered was coal-bed methane development and potential effects to downstream species. It was concluded that there

could be impacts from this type of development on FS lands to species that reside off of FS lands.

Decision: The group felt that the type of example represents a relatively rare circumstance that could add quite a few species to the list, but that are not relevant to most FS projects. The decision was that additional species, species not otherwise on the list, would not be added to the Sensitive list to deal with this issue. But, rather that this type of situation should be dealt with during project analysis as a part of cumulative effects analysis.

Step 3 Conclusion Statement: **The result of this step in the process was a starting review list of 487 wildlife species for which some concern for population reduction or viability was identified, within one or more of the States of ID, MT, SD, or ND, and State and Global NHP Ranks had been compiled for all (most) species. In addition, an estimated seasonal distribution and occurrence on FS Units had been developed for each species.**

At this stage an initial cut was made to the starting review list to identify those species that did not rise to the level of concern, based upon Global or State Rank, and/or were not expected to occur as breeding or winter residents on FS Units. Species not meeting either the Rank or distribution criteria were proposed to not be carried further in the review process.

- **Validation of NHP Ranks, Species Seasonal Use Patterns, and Species Distribution:**
  A review process was carried out with NHP personnel within each of the 4 States included in R1. The review included consideration of the entire 487 starting species review list, with validation of the identified State and Global Rank, a discussion of species distribution within the State and distribution on National Forest System lands, and the Rank and concern issues for species that were drawn from source lists other than the NHP. For species that NHP folks indicated concern, but that were not Ranked as G1-G3 or S1-S2, they were asked to review the species rank and change it, and/or outline which of the Ranking elements would/should cause the species to be further considered in the Sensitive Species review process.

Meetings were held with NHPs at the following locations, dates, and included the following individuals:

Montana NHP meeting was held in Helena MT on June 4, 2003, and in Missoula MT on August 8, 2003. Individuals in attendance at the Helena meeting included: NHP-John Carlson, and FS-Tom Wittinger, Sandy Kratville, Pat Sweeney, Don Godtel, Marion Cherry, Tom Whitford, Denise Pengeroth, Art Rohrbacher (was he at this meeting???). Individuals in attendance at the Missoula meeting included NHP consultant Bryce Maxell, and Tom Wittinger of the FS. Additional written input was provided in a report from MT NHP "Status and Conservation Management of Terrestrial Mollusks of Special Concern in Montana" Paul Hendricks, June 2003.

Idaho NHP meeting was held in Grangeville ID on June 17, 2003. Individuals in attendance included: NHP-Kevin Church, Rex Salabanks, Chuck Harris, and FS-Tom Wittinger, and Steve Blair. Additional clarification/comment was provided by ID NHP Staff, George Stephens, concerning the status of the Marbled disc, and Northern alligator lizard (memo dated 7/29/03).

North Dakota NHP meeting was held in Dickinson ND on June 27, 2003. Individuals in attendance included: NHP-Kathy Duttenhefner and FS-Arden Warm. ND NHP Staff, Kathy Duttenhefner, provided additional clarification/comment and modification of some State Ranks for the Broad-winged skipper, Mulberry wing, Dion skipper, and Tawny crescent (memo dated 8/25/03).

South Dakota NHP meeting was held in Camp Crook SD on July 8, 2003. Individuals in attendance included: Doug Backlund of NHP and Alyssa Kiesow, SD Game, Fish and Parks-Shelly Deisch and Tom Whitford of the FS.

Comments were entered into the starting review species list for each State NHP, and provided back to NHP personnel for their review and correction. Follow-up changes to State Ranks, and/or suggested additional considerations for selected species, were included in final species evaluations.

Species that were included on the starting review list that originated from species lists other than the NHP were reviewed, including the Global and State Ranks, so that only similar at-risk species were included for Sensitive Species consideration as the review process moved forward. The NHP Rank criteria were utilized in determining whether or not a species from another source list should be carried forward in the review.

- ***Step 4 Conclusion Statement:*** **This step provides validation or correction to Global and State Rankings, seasonal use patterns, and distribution within the States and on FS lands. The starting review list was modified, with only those species meeting Rank and distribution criteria carried further in the review process, and considered for R1 Sensitive status.** ***The table found in [the table at p. 69-70] captures all operations carried out in Steps 1-4.*** **Risk Factors:**

  Each species carried forward from Step 4 was screened to determine its risk from forest related management activities and/or control. Species for which appreciable risk factors were predicted, for either populations or habitats, was carried forward for consideration as a Sensitive Species. Those species for which no, or very limited risk, was identified were not carried forward. The attached list of risk elements, Attachment X, was developed by botanist in development of the 1999 Sensitive Species List, and with some modifications, additions, and deletions was adapted for use for wildlife species.

- ***Step 5 Conclusion Statement:*** **The result of this step was a list of wildlife species that have met viability, distributional, and management risk process criteria, and therefore should be considered for management as R1 Sensitive Species. Additional Species Considerations:**

  The application of Sensitive Species management occurs at the Forest Plan and project development scales, and has the objective of providing meaningful species considerations into these processes. Where basic information concerning species distribution and habitat use requirements is lacking, the utility of Sensitive Species listing is questionable. In addition, listing a species as Sensitive without adequate distribution or habitat use information places a management and analysis burden at the project level that can't be met.

  Distributional and habitat information for species included in the mollusk wildlife group is generally limited, and can most efficiently be developed at a Regional scale.

Therefore, species within this group were not proposed for inclusion to the Sensitive Species List, but rather efforts will focus upon the collection of distribution and habitat use information required for land management activities and decisions.

Step 6 Conclusion Statement: The results of this step is to not list mollusk wildlife species on the Sensitive Species List at this time. The result of Steps 1-5 is a proposed R1 Sensitive Wildlife Species. The proposed Sensitive Species List, a list of species that were added to the 1999 Sensitive Species List, a list of species that were dropped from the 1999 Sensitive Species List, and a list of species that have a change in the area where considered Sensitive are found in Attachments x-x.

ATTACHMENTS

1) ***Draft Proposed Sensitive Species List***
2) ***Species proposed to be added to the 1999 List***
3) ***Species proposed to be dropped from the 1999 List***
4) ***Species proposed for a change in area where Sensitive, relative to the 1999 List***
5) ***Risk elements list***

Starting review species list, Global and State Ranks, Source list origin, Unit and State distributions, and NHP review comm. **Appendix H: Statewide bighorn distribution in relation to sheep grazing**

Appendix H: Appeal Decision Extract from Reviewing Officer for the Chief Regarding Bighorn Sheep

Appeal Decision

The Regional Forester's decision meets the requirements of applicable Federal law, regulations, and policy, upon the condition that certain actions are completed. Attachment 2 describes the issues raised by appellants as well as where the record provides evidence to address those issues. I affirm the decision to select Alternative 6 Modified from the FEIS and approve the BDNF Revised Plan, with the following instructions:

1. I have reviewed the Revised Plan management direction (RFP, pp. 45-49) and analysis in the FEIS (pp. 485-539) for wildlife habitat, and public comments related to control of disease between bighorn sheep and domestic sheep, and the responses to those comments. I find the Revised Plan is adequate to provide for the persistence of bighorn sheep, consistent with the 1982 NFMA diversity requirements (36 CFR 219.26).

   However, given ongoing conflicts over bighorn sheep management in western states and the current high degree of public interest in the management of bighorn sheep, it appears that the Revised Plan defers the bighorn and domestic sheep interaction issue to site-specific decisions (e.g. allotment management plans) rather than taking a more comprehensive approach. Therefore, I direct the Regional Forester to review the Land and Resource Management Plan planning record and any other relevant information and determine whether an amendment is necessary to provide more comprehensive direction for the management of sheep interactions on the BDNF. I further instruct the Regional Forester to inform the appellant of the outcome of this review.

Appendix I. Bryce Maxell Pers. Comm

"Maxell, Bryce" <BMaxell@mt.gov>
10/19/2010 03:27 PM

To Art Rohrbacher <arohrbacher@fs.fed.us>
cc
bcc

Subject RE: Bighorn Sheep Ranking

Hi Art,

We actually reviewed Bighorn Sheep this spring as a result of the die offs and some requests for a review. I have attached the review and included my email summary on that below so that you can see what was driving the score and what potentially could cause rank changes in the future. I will let you digest that and you can let me know if you have any questions on the documentation, the process, or if you have any additional information.

-Bryce

From: Maxell, Bryce

Sent: Tuesday, May 04, 2010 9:44 AM

To: 'Tom Carlsen'; Carlsen, Tom; DuBois, Kristi; Hanauska-Brown, Lauri; Sime, Carolyn; Hendricks, Paul

Cc: Kujala, Quentin; Lenard, Susan; Currier, Coburn; Messer, Adam; Story, Scott; Gude, Justin

Subject: SOC Review for Bighorn Sheep, Mountain Goat, and Gray Wolf

Hi everyone,

I have reviewed status information on Bighorn Sheep and Mountain Goat with Tom Carlsen and Gray Wolf with Carolyn Sime. The full reviews for these species are in the attached word document. All three species are borderline for inclusion on the Species of Concern List and will almost certainly stay that way. All three species lose some points because of their relatively small population sizes. However, Bighorn Sheep and Gray Wolf gain points back because of overall positive population trends over the last 10 years or 3 generations. Gray Wolf and Mountain Goat also gain points back because their area of occupancy in the state is greater than 20,000 square kilometers; Bighorn Sheep are just under that area of occupancy threshold at 19,782 square kilometers. Tom, you and I had guesstimated the area of occupancy for Bighorn Sheep and Mountain Goat, but when I used the population polygons on the FWP

GIS download page, Mountain Goats occupy 24,015 square kilometers and gain enough points back to cancel out those they lost for small population size.

Overall, all three species have a raw score of 3.5 which would round to an S4. Gray Wolf would be removed from the Species of Concern List and Bighorn Sheep and Mountain Goat would stay off the Species of Concern List on this review. As I noted with Tom and Carolyn, the raw scores for Gray Wolf and Bighorn Sheep are partially driven by the fact that they have had positive population trends over the last 10 years or 3 generations. That raises the issue of what happens when populations are no longer increasing for these species over the long run. For Bighorn Sheep the loss of points from having a relatively small population size might be canceled out by even a small expansion (>218 square kilometers) in area occupied. However, Gray Wolf will always have such a small population that they would likely not gain enough points back once populations are no longer expanding....thus, they are likely to score a 3.25 at some point in the future which would round to an S3 and put them back on the SOC list if we strictly follow the raw scores. My feeling is that Gray Wolf has exhibited such a great ability to expand that I would be hesitant to put the species back on the list in the future as long as the threats from human activities can be managed effectively enough to support a relatively stable population.

For the present, can I get email feedback from Tom, Kristi, Lauri, Carolyn, and Paul supporting the S4 ranking for all three of these species?

Thanks again for your time Carolyn and Tom!

-Bryce

Bryce A. Maxell

Interim Director / Senior Zoologist

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http://mtnhp.org/about/announce.asp

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Access recent program announcements and our annual report at:
http://mtnhp.org/about/announce.asp

From: Art Rohrbacher [mailto:arohrbacher@fs.fed.us]

Sent: Tuesday, October 19, 2010 1:27 PM

To: Maxell, Bryce

Cc: Art Rohrbacher

Subject: Bighorn Sheep Ranking

Good afternoon, Bryce. In light of the recent die-offs are you folks looking at revising the current S4 ranking to something more vulnerable?

Thanks

Art

****

Art Rohrbacher
Wildlife Program Manager
Beaverhead-Deerlodge NF
Dillon, MT 59725
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E-mail: arohrbacher@fs.fed.us

********** Terrestrial_Species_Status_Review_2010_050410.doc

Appendix J: Rating Sheet - bighorn sheep status review 5/04/2010

Bighorn Sheep (*Ovis canadensis*)

Reviewer = Tom Carlsen

Population Size

Probably 4,800 reproductive adults statewide based on a total population estimate of approximately 6,000 statewide.

E

Range Extent

226,322 square kilometers based on Heritage Range Maps

G

Area of Occupancy

19,782 square kilometers based on FWP population polygons.

G

Long-term Trend

Pre-European arrival there were 1.5 to 2 million Bighorn Sheep in western North America. In Montana, there were possibly over 100,000 animals and there was a drastic decline because of diseases passed on by domestic sheep and some overhunting. The season closed around 1915 when there were around 12 remnant populations in western Montana. Reintroduction efforts started back in the 1920s, but effective translocations didn't really get going until the 1970s. So, there is strong support for a 75-90% decline from pre-European times.

B

Short-term Trend

Population was pretty stable between 1985 and 2000 at just below 5,000 animals. In 2000, the population was estimated at 5,000 animals based on direct counts and in 2010 the population is estimated at around 6,000, again based on direct counts. So, during the past 12 years or 3 generations, the population has increased by 20%.

F

Threats

Disease, habitat loss from human development, weed infestations, and encroachment of conifers, and vehicle disturbance and collisions all represent threats to Montana populations.

Severity = Low. Species has recovered from previous declines to a great extent within the last 30 years so they seem moderately capable of recovering within 10-50 years if disease, habitat loss, and vehicle collision threats are adequately addressed in management plans.

Scope = Moderate. Approximately 25 of the 45 (56%) populations outside of GNP are exposed to domestic sheep to some extent. Approximately 14 of the 45 (31%) populations outside of GNP are exposed to vehicle collisions. Approximately 14 of the 45 (31%) populations outside of GNP are threatened by human development. Overall, approximately 27 of the 45 (60%) populations outside of GNP face one or more of these threats.

Immediacy = Moderate. Ongoing

Intrinsic Vulnerability

Species has shown the ability to recover to some extent after reintroductions between 1970s or 1980s and 2010. However, they are not great dispersers and often require direct reintroduction and management assistance.

B

Environmental Specificity

Key in on escape cover in rough terrain which is limited across the species current range.

B

Current S Rank

S4

Raw Score

3.5 – 0.25 + 0.0 + 0.25 - 0.0 = **3.5**

Proposed Rank

S4.

Appendix K: Domestic Sheep Inventory in BDNF Counties

USDA United States Department of Agriculture
National Agricultural Statistics Service

2007 CENSUS OF AGRICULTURE

EXTRACT

Quick Stats

Source	Year	Frequency	Location	State	Ag. District	County	Data Item	Domain	Domain Category	Value
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	NORTHWEST	DEER LODGE	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	800
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	NORTHWEST	GRANITE	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	700
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	SOUTHWEST	BEAVERHEAD	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	14000
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	SOUTHWEST	JEFFERSON	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	1200
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	SOUTHWEST	MADISON	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	4400
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	SOUTHWEST	SILVER BOW	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	500
SURVEY	2009	FIRST OF DEC	COUNTY	MONTANA	NORTHWEST	POWELL	SHEEP, INCL LAMBS - INVENTORY	TOTAL	NOT SPECIFIED	700